McGAHON
SURVEYORS

Volume C Pricing Document

CLIENT: Louth and Meath Education and Training Board (LMETB)

JOB: Schools Energy Pathfinder 2025 - Heat Pump Programme - Bundle 2 (LMETB)

DATE: 08/05/2026



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PRELIMINARIES

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1. PRELIMINARIES PARTICULARS **1 PRELIMINARY PARTICULARS** **This Pricing Document must be completed in full and returned with the tender** **1.1 Project, parties and consultants** The name, nature and location of the project Schools Energy Pathfinder 2025 - Heat Pump Programme - Bundle 2 (LMETB) The nature of the Works is the mechanical and electrical (M&E) plantroom upgrade enabling works including all associated builder's works and site works to facilitate heat pump installation. The location of the sites are as follows: Scoil Na Rithe, Drumree Road, Dunshaughlin, Co. Meath Our Lady of Mercy NS, Jim Brunnock Road, Kells, Co. Meath Castlejordan Central NS, Castlejordan, Co. Meath S N Cul An Mhuilinn, Culmullen, Drumree, Co. Meath Ughtyneill NS, Ughtyneill, Moynalty, Co. Meath St Oliver Post primary, Oldcastle, Co. Meath A general description of the works The contract comprises the following works: The Works comprise the upgrade of heating plantrooms across 6 No. school sites in County Meath, planned to be undertaken during the summer holiday period while the schools are closed to students.The Works Contractor shall be responsible for the installation of heat pump systems including all associated mechanical and electrical works, all necessary builder's works, and all associated siteworks. Siteworks shall include trenching, underground pipework and ducting connections to external heat pump units, together with the provision of concrete plinths and enclosures.The scope also includes all required modifications to existing structures and services and all works necessary to facilitate the installation, testing, commissioning and operation of the upgraded systems as detailed in Volume A Works Requirements. The names and address of the Employer and Consultants together with their respective roles. The 'Employer' shall mean Louth and Meath Education and Training Board (LMETB), Chapel Street, Dundalk, Co. Louth, A91 C7D8					
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	1. PRELIMINARIES PARTICULARS (Cont)					
	Names and addresses of the Consultants					
	The term 'Employer's Representative' shall mean					
	Semple & McKillop, Monaghan Rd, Drumillard Little, Castleblayney, Co. Monaghan					
	The Building Services Engineer is:					
	Semple & McKillop, Monaghan Rd, Drumillard Little, Castleblayney, Co. Monaghan					
	The Quantity Surveyor is:					
	McGahon Surveyors Ltd., Block 1, Quayside Business Park, Mill Street, Dundalk, Co Louth					
	1.2 Description of site					
A	The Works are to be carried out across 6No. separate school sites in County Meath. The boundaries, access arrangements and positions of the Works are indicated on the Site Layout Plans included in the Works Requirements.	1	item			
B	The Contractor shall be deemed to have visited the sites and satisfied themselves as to all site conditions, access constraints and the nature of the existing buildings and surrounding areas.	1	item			
	The existing boundaries of the site include the following:					
C	The existing boundaries to each of the school sites shall remain unchanged for the duration of the Works.	1	Item			
D	The Contractor shall familiarise themselves with all boundary conditions and interfaces with adjoining properties and shall ensure no interference or damage is caused to same.	1	Item			
	Means of Access					
E	Access to the Works shall be via the existing entrances to each school site. No alternative access points shall be used without prior approval of the Employer's Representative.	1	Item			
F	The Contractor shall provide and maintain safe and secure access to the Works areas at all times and implement appropriate traffic management and signage to minimise disruption to school operations, staff and local traffic.	1	Item			
G	The Contractor shall be responsible for maintaining clean and safe access routes and shall make good any damage arising from their operations.	1	Item			
	Restrictions on Access					
H	The Contractor's working areas shall be limited to the designated Works areas only and shall not impede the operation of the remainder of the school sites.	1	Item			
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	1. PRELIMINARIES PARTICULARS (Cont)					
A	While the Works are planned during school holidays, the Contractor shall allow for the potential presence of school staff and others on site and shall ensure appropriate segregation, safety measures and controls are in place at all times.	1	Item			
B	Existing emergency access and egress routes shall be maintained throughout the Works.	1	Item			
	Position of the Works					
C	The position and extent of the Works at each site are as indicated on the Site Layout Plans included in the Works Requirements.	1	Item			
D	The Contractor shall set out and coordinate the Works to suit the existing buildings, services and site constraints.	1	Item			
	Existing Buildings and Services					
E	Existing school buildings and services located within each site as indicated in the Works Requirements.	1	Item			
F	The Contractor shall ensure that all existing services remain operational within occupied areas for the duration of the Works and shall coordinate all works accordingly.	1	Item			
G	The Contractor shall verify the location of all existing services prior to commencing works and shall be responsible for avoiding damage to same.	1	Item			
H	ll necessary liaison with school representatives shall be undertaken to coordinate works, particularly in relation to any service interruptions, which shall be minimised and agreed in advance.	1	Item			
	Adjacent / Abutting Structures					
J	The Contractor shall allow for working in proximity to existing buildings and adjoining properties and shall take all necessary precautions to prevent damage or disturbance.	1	Item			
K	A pre-construction condition survey of existing buildings, hardstandings and adjacent properties shall be carried out and issued to the Employer's Representative for record.	1	Item			
L	The Contractor shall liaise with adjacent stakeholders as required and shall ensure that disruption arising from the Works is kept to a minimum.	1	Item			
	1.3 Drawings and other documents					
	Drawings and other documents used for the preparation of this bill of quantities are:					
M	Documents contained in Volume A - Works Requirements	1	Item			
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	1. PRELIMINARIES PARTICULARS (Cont)					
	Project Particulars & General Conditions					
A	Provide for any costs arising from complying with items given in Volume A1 - Project Particulars	1	Item			
	Drawings - Copies					
B	Copies of the Drawings, additional to those provided for in the Conditions of Contract shall be provided at the Contractor's expense. Keep one copy of all contract drawings on the works for inspection by the Employer's Representative on completion of the works.	1	Item			
	Pricing Documents					
C	The basis of measurement is the Agreed Rules of Measurement, Issue Four 2010 (ARM4) and ARM 4 Supplement 1, agreed between the Construction Industry Federation and the Society of Chartered Surveyors Ireland.	1	Item			
D	Mechanical & Electrical Works measured in accordance with The Agreed Rules of Measurement 4 to Supplement 2	1	Item			
E	Tendering Contractors are referred to the General Rules section of ARM 4 Supplement 1 (Issue 1 2010) and the ARM Standing Committee Notice of Amendments to ARM 4, Supplement 2 dated 15th November 2019 used in the production of Volume C Pricing Document.	1	Item			
F	Tenders must be priced in accordance with section 5.7 of the Instructions to Tenderers issued with this tender	1	Item			
G	Errors in the Pricing Document will be dealt with in accordance with section 8.1 of the Instructions to Tenderers issued with this tender	1	Item			
H	Unbalanced Tenders will be dealt with in accordance with section 8.2 of the Instructions to Tenderers issued with this tender	1	Item			
J	Abnormally low tenders, abnormally high or low rates or prices will be dealt with in accordance with section 8.3 of the Instructions to Tenderers issued with this tender	1	Item			
K	The Contractor shall keep one unpriced copy of the Pricing Document on the Works and the Employer's Representative or his representatives shall at all reasonable times have access to it.	1	Item			
L	No alterations or qualifications of any kind may be made by the Tenderer to the text of the Pricing Document. Should any alteration amendment note or addition be made it will be ignored and the text prepared by the Quantity Surveyor shall be adhered to.	1	Item			
M	The tendering contractor must comply with the rules set out in the Instructions to Tenderers when completing Volume C - Pricing Document	1	Item			
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	1. PRELIMINARIES PARTICULARS (Cont)					
	Generic Names / Performance Requirements / Proprietary Names					
A	To avoid long descriptions repetitions, certain descriptions and measured items refer to the specification by use of the words " as described" whether so referred or not, all instructions and information contained in the Specification Clauses will be deemed to have been taken into consideration in pricing the whole of this Pricing Document.	1	Item			
B	Wherever a proprietary name is used to specify a material or process it shall be deemed to have the term "or equivalent" appended to it.	1	Item			
C	Where a material or process is described by reference to its proprietary name the name is used to indicate the standard of construction, appearance, ease of maintenance and durability acceptable to the Employer's Representative. The Employer's Representative will approve the use of alternatives where such alternatives are shown to equal or surpass the qualities of the product or process specified. Accordingly proprietary names wherever mentioned in the Specification, Pricing Document or on the drawings shall be deemed to mean the provision of the named product or process or an equivalent.	1	Item			
D	If the Contractor wishes to propose an "equivalent" product to that specified, they must follow the following procedures:	1	Item			
E	a) Proposal to change must be formally requested through the employer's representative (ER) citing the reason why and demonstrating that the "equivalent" is equal to the original specification	1	Item			
F	b) The ER is entitled to seek further demonstration that the "equivalent" proposal is equal, and tendering contractors should expect and include for same	1	Item			
G	c) The ER's approval of the "equivalent" must be issued in writing prior to the works commencing	1	Item			
H	In exceptional cases where it has not been possible to specify a generic element and a specific product has been named, an equivalent product to that specified is acceptable where it meets the technical, functional and aesthetic standards of that specified: the onus is on the contractor to ensure that an equivalent product to that specified meets the standard by means of an agreement cert, insurance backed guarantee or warranty, detailed specifications, fire test certificates where applicable, brochure and other means of proof of compliance. Notwithstanding this, the appropriate foregoing documentation and samples are to be provided to the architect prior to being incorporated into the construction.	1	Item			
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1. PRELIMINARIES PARTICULARS (Cont)					
COLLECTION					
Page No. Preliminaries/1					
Page No. Preliminaries/2					
Page No. Preliminaries/3					
Page No. Preliminaries/4					
Page No. Preliminaries/5					
1. PRELIMINARIES PARTICULARS **Carried to Summary**					

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	2. CONTRACT					
	2. CONTRACT					
	2.1 Form, type and conditions of contract					
	Form, type and conditions of contract					
	The Form of Conditions set out in the Public Works Contract for Minor Building and Civil Engineering Works designed by the Employer with a cited revision reference commencing with v2 published on http://constructionprocurement.gov.ie/ contracts/ on the date 10 days before the latest date for receipt of Tenders (disregarding any amendements posted on that date).					
	Articles of Agreement					
A	Agreement A2	1	Item			
	Conditions of Contract - clause headings					
	1. THE CONTRACT					
B	1.1 Definitions	1	item			
C	1.2 Interpretation	1	item			
D	1.3 Inconsistencies	1	item			
E	1.4 Pricing Document and Works Proposals	1	item			
F	1.5 Performance Bond	1	item			
G	1.6 (not used)	1	item			
H	1.7 Joint Ventures	1	item			
J	1.8 Assignment	1	item			
K	1.9 Miscellaneous	1	item			
L	1.10 Background Information	1	item			
	2.0 THE LAW					
M	2.1 Law governing the Contract	1	item			
N	2.2 Compliance with Legal Requirements	1	item			
P	2.3 Consents	1	item			
Q	2.4 Project Supervisor	1	item			
R	2.5 Safety, Health and Welfare at Work Act 2005 and Safety, Health and Welfare at Work (Construction) Regulations 2013	1	item			
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	2. CONTRACT (Cont)					
A	2.6 Ethics in Public Office	1	item			
B	2.7 Data Protection	1	item			
	3.0 LOSS, DAMAGE AND INJURY					
C	3.1 Employer's Risks of Loss and Damage to the Works	1	item			
D	3.2 Care of the Works	1	item			
E	3.3 Insurance of the Works and Other Risk Items	1	item			
F	3.4 Contractor's Indemnity	1	item			
G	3.5 Employer's Indemnity	1	item			
H	3.6 Public Liability and Employer's Liability Insurances	1	item			
J	3.7 Professional Indemnity Insurance	1	item			
K	3.8 Existing Facilities and Use or Occupation by Employer	1	item			
L	3.9 General Requirements Concerning Insurance	1	item			
M	3.10 Limitation of Liability	1	item			
	4.0 MANAGEMENT					
N	4.1 Co-operation	1	item			
P	4.2 Contractor's Representative and Supervisor	1	item			
Q	4.3 Employer's Representative	1	item			
R	4.4 Employer's Representative's Communications	1	item			
S	4.5 Instructions	1	item			
T	4.6 Works Proposals	1	item			
U	4.7 Required Contractor Submissions	1	item			
V	4.8 (not used)	1	item			
W	4.9 Programme	1	item			
X	4.10 Progress Reports	1	item			
Y	4.11 Notice and Time for Employer's Obligations	1	item			
Z	4.12 Documents	1	item			
AA	4.13 Contractor's Management	1	item			
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	2. CONTRACT (Cont)					
A	4.14 Communications	1	item			
B	4.15 Meetings	1	item			
C	4.16 Confidentiality and Secrecy	1	item			
D	4.17 Contractor's Things Not to be Removed	1	item			
E	4.18 Contractor's Documents	1	item			
	5.0 CONTRACTOR'S PERSONNEL					
F	5.1 Contractor's Personnel to carry out Contractor's Obligations	1	item			
G	5.2 Qualifications and Competence	1	item			
H	5.3 Pay and Conditions of Employment	1	item			
J	5.4 Subcontractors and Specialists	1	item			
K	5.5 Collateral Warranties	1	item			
L	5.6 Removal of Work Persons	1	item			
M	5.7 Weekly Labour Records	1	item			
N	5.8 Ancillary Certificates	1	item			
	6.0 PROPERTY					
P	6.1 Ownership of Work Items	1	item			
Q	6.2 Infringement of Property Rights	1	item			
R	6.3 Works Requirements	1	item			
S	6.4 Rights in Contractor's Documents	1	item			
	7.0 THE SITE					
T	7.1 Lands made available for the Works	1	item			
U	7.2 Trespassers	1	item			
V	7.3 Contractor Responsible for all Site Operations	1	item			
W	7.4 Services for Employer's Facilities	1	item			
X	7.5 Security and Safety of the Site and Nuisance	1	item			
Y	7.6 Other Contractors	1	item			
Z	7.7 Setting Out the Works	1	item			
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	2. CONTRACT (Cont)					
A	7.8 Archaeological Objects and Human Remains	1	item			
B	7.9 Access and Facilities	1	item			
C	7.10 (not used)	1	item			
D	7.11 (not used)	1	item			
E	7.12 Charges	1	item			
	8.0 QUALITY, TESTING AND DEFECTS					
F	8.1 Standards of Workmanship and Works Items	1	item			
G	8.2 Quality Assurance	1	item			
H	8.3 Inspection	1	item			
J	8.4 Tests	1	item			
K	8.5 Defects	1	item			
L	8.6 Defects Period	1	item			
M	8.7 Defects Certificate	1	item			
	9.0 TIME AND COMPLETION					
N	9.1 Starting Date	1	item			
P	9.2 Suspension	1	item			
Q	9.3 Delay and Extension of Time	1	item			
R	9.4 Programme Contingency	1	item			
S	9.5 Omissions and Reduction of Time	1	item			
T	9.6 Substantial Completion	1	item			
U	9.7 (not used)	1	item			
V	9.8 Liquidated Damages	1	item			
	10.0 CLAIMS AND ADJUSTMENTS					
W	10.1 Compensation Event	1	item			
X	10.2 Contractor to Pay Employer's Cost of Checking Quantities	1	item			
Y	10.3 Contractor Claims	1	item			
Z	10.4 Proposed Instructions	1	item			
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	2. CONTRACT (Cont)					
A	10.5 Employer's Representative's Determination	1	item			
B	10.6 Adjustments to the Contract Sum	1	item			
C	10.7 Delay Cost	1	item			
D	10.8 (Not used)	1	item			
E	10.9 Employer's Claims	1	item			
	11.0 PAYMENT					
F	11.1 Interim Payment	1	item			
G	11.2 Unfixed Works Items	1	item			
H	11.3 Retention	1	item			
J	11.4 Full payment	1	item			
K	11.5 Final Statement	1	item			
L	11.6 Time for Payment and Interest	1	item			
M	11.7 Value Added Tax	1	item			
N	11.8 Withholding Tax	1	item			
	12.0 TERMINATION					
P	12.1 Termination on Contractor Default	1	item			
Q	12.2 Consequences of Default Termination	1	item			
R	12.3 Suspension by the Contractor	1	item			
S	12.4 Termination by the Contractor	1	item			
T	12.5 Termination at Employer's Election	1	item			
U	12.6 Consequences of Termination by Contractor or at Employer's Election	1	item			
V	12.7 Survival	1	item			
W	12.8 Payment	1	item			
X	12.9 Reference to Conciliation	1	item			
	13.0 DISPUTES					
Y	13.1 Conciliation	1	item			
Z	13.2 Adjudication	1	item			
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	2. CONTRACT (Cont)					
A	13.3 Arbitration	1	item			
B	13.4 Jurisdiction	1	item			
C	13.5 Agent for Service	1	item			
D	13.6 Continuing obligations	1	item			
	14.0 COVID-19 MADATORY CLOSURE					
E	14.1 Covid-19 Definitions	1	item			
F	14.2 Covid-19 General Provisions	1	item			
G	14.3 Covid-19 Costs	1	item			
	15.0 PRICE VARIATION					
H	15.1 Definitions	1	item			
J	15.2 Contract Sum Adjustments	1	item			
K	15.3 Proportions	1	item			
L	15.4 Change in Law	1	item			
M	15.5 Failure to Commence by the Start Date	1	item			
N	15.6 Failure to Complete on Time	1	item			
P	15.7 Excluded Amounts	1	item			
Q	15.8 Revisions to the Index Figures	1	item			
R	15.9 Permitted Increases and Permitted Decreases for Material Categories and Fuel Categories	1	item			
S	15.10 Adjustments for Labour	1	item			
T	15.11 Efficiency	1	item			
	APPENDICES TO CLAUSE 15					
U	Appendix 1 Definitions	1	item			
V	Appendix 2 Permitted Increases and Permitted Decreases for Materials and Fuel	1	item			
W	Appendix 3 Labour	1	item			
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	2. CONTRACT (Cont)					
	THE SCHEDULE - PART 1					
A	A. Employer's Representative and Communications	1	item			
B	B. Documents	1	item			
C	C. Project Supervisor	1	item			
D	D. Insurance	1	item			
E	E. Performance Bond	1	item			
F	F (i). Collateral Warranties	1	item			
G	F (ii). Ancillary Certificates	1	item			
H	F (iii). Named Specialists	1	item			
J	G. Dates for Substantial Completion, Sections, Liquidated Damages, Retention	1	item			
K	H. Early Completion	1	item			
L	I. Defects Period	1	item			
M	J. Random Checks for Employment Records	1	item			
N	K. Delay Events, Compensation Events, Programme Contingency, Delay Costs, Adjustments	1	item			
P	L. Payment Particulars	1	item			
Q	M. Cap on Liability	1	item			
R	N. Conciliation, Adjudication and Arbitration	1	item			
S	O. Rights in Contractor's Documents	1	item			
T	P. Material Categories	1	Item			
U	The completed Schedule Part 1 of the contract is contained within Volume B. Provide herin if not included elsewhere for complying in all respects with the schedule & conditions as described.	1	Item			
	<u>The insertions in the Schedule Part 1 are</u>:					
	<u>A. Employer's Representative and Communications</u>					
	Sub-clauses 4.3 and 4.14					
	Notices under clauses 12 and 13 to be sent to					
	Chief Executive, Louth and Meath Education and Training Board (LMETB)					
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2. CONTRACT (Cont)

Abbey Road, Navan, Co Meath, C15 N67E

Other notices to the Employer to be sent to

Mr. Stephen Kernaghan, Semple & McKillop

Monaghan Rd, Drumillard Little, Castleblayney, Co. Monaghan

Phone: +353 42 974 9570

Email: stephenkernaghan@semplemckillop.com

The Employer's Representative is: Mr. Stephen Kernaghan, Semple & McKillop

Notices to the Employer's Representative to be sent to

Mr. Stephen Kernaghan, Semple & McKillop

Monaghan Rd, Drumillard Little, Castleblayney, Co. Monaghan

Phone: +353 42 974 9570

Email: stephenkernaghan@semplemckillop.com

Maximum adjustment to the Contract Sum for a single Change Order: €2,000.00

Maximum cumulative value of adjustments to the Contract Sum for Change Orders in any 3 month period is: 0.25% of the Contract value, unless approved by the Employer.

B. Documents

Works Requirements are:

As Scheduled in Volume A Works Requirements

Pricing Document is:

A Bill of Quantities measured in accordance with the: Agreed Rules of Measurement 4, Supplement 1 as included in Volume C.

Mechanical & Electrical works measured in accordance with The Agreed Rules of Measurement 4 to Supplement 2

Works Proposals are:

As included in Volume D and attachments - Works Proposals (response to Technical Merit Criteria as outlined in Appendix 1 of the ITT document and accompanying tender information outlining the criteria).

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	2. CONTRACT (Cont)					
	C. Project Supervisor (Sub-clause 2.4)					
	The Contractor is to be appointed project supervisor for the construction stage for the Works and any other work on the Site from the Starting Date until all construction work on the project has been completed.					
	D. Insurance (Sub-clause 3)					
A	Insurance of the works: minimum amount insured for professional fees 12.5% of the Contract Sum	1	item			
B	Minimum indemnity limit for Public Liability insurance: €6,500,000 for any one event, but this limit may be on an annual aggregate basis for products liability, collapse, vibration, subsidence, removal and weakening of supports and sudden accidental pollution	1	item			
C	Minimum indemnity limit for Employers' liability insurance: €13,000,000 for any one event	1	item			
D	Maximum excess for Insurance of Works and other Risk Items: the greater of 1% of the Project Value or 0.5% of Contractor's turnover	1	item			
E	Maximum excess for Public liability: the greater of 1% of the Project Value or 0.5% of Contractor's turnover in respect of property damage only. There shall be no excess for death, injury or illness.	1	item			
F	There is no excess permitted for Employers' liability insurance.	1	item			
	Permitted exclusions from all Insurances					
G	War, invasion, act of foreign enemies, hostilities [whether war is declared or not], civil war, rebellion, revolution, insurrection or military or usurped power	1	item			
H	Pressure waves caused by aircraft or other airborne objects travelling at sonic or supersonic speeds	1	item			
J	Contamination by radioactivity or radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or its components, in each case not caused by the Contractor or the Contractor's Personnel	1	item			
K	Terrorism	1	item			
L	Asbestos	1	item			
	Permitted exclusions from insurance of the Works and other Risk Items:					
M	Use or occupation of the Works by the Employer except in connection with the Works	1	item			
N	Unless otherwise specified in the Works Requirements, cost of making good defects in the Works but not damage caused by such defects to other sound parts of the Works	1	item			
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	2. CONTRACT (Cont)					
A	Wear, tear, normal upkeep or normal repair or gradual deterioration	1	item			
B	Inventory losses	1	item			
C	Loss of use or any consequential loss of any nature including penalties for delay, non-completion or non-compliance	1	item			
D	Failure of information technology	1	item			
E	Mechanical or electrical breakdown but not resulting damage	1	item			
F	Cessation of the Works for more than 3 months	1	item			
	Permitted exclusions from public liability insurance:					
G	Persons under a contract of service or apprenticeship with the insured	1	item			
H	Property of the insured or in the insured's custody or control other than existing premises and their contents temporarily occupied for the purposes of the Works	1	item			
J	Defective workmanship or materials but not resulting damage	1	item			
K	Mechanically propelled vehicles within the meaning of the Road Traffic Acts	1	item			
L	Loss or damage due to design	1	item			
M	Gradual pollution or contamination	1	item			
N	Territorial limits	1	item			
P	Unless otherwise specified in the Works Requirements, aircraft and waterborne craft	1	item			
Q	Fines, penalties, liquidated damages	1	item			
	Permitted exclusions from employer's liability insurance:					
R	Offshore work	1	item			
S	Liability compulsorily insurable under the Road Traffic Acts	1	item			
	Permitted exclusions for professional indemnity insurance:					
T	Persons under a contract of service or apprenticeship with the insured	1	item			
U	Ownership, use, occupation or leasing of mobile or immobile property	1	item			
V	Effecting or maintenance of insurance of or in connection with the provision of finance or advice on financial matters	1	item			
W	Dishonest, malicious, criminal or deliberate illegal acts	1	item			
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	2. CONTRACT (Cont)					
A	Libel and slander	1	item			
B	Insolvency	1	item			
C	Fines, penalties, liquidated damages or any penal, punitive, exemplary, non-compensatory or aggravated damages	1	item			
D	Failure of information technology	1	item			
E	Contractual liability that would not apply in the absence of the contract	1	item			
	Optional insurance provisions					
F	Sub-clause 3.8 shall apply.	1	item			
G	Insurance of the works and other Risk Items shall include the following property of the Employer, other than the Works and Work Items: Not applicable and the minimum sum for which this property is to be insured shall be €Not applicable.	1	item			
H	If insurance of the Works and other Risk Items is to include terrorism cover, the minimum sum insured shall be: €0.00	1	item			
J	The Contractor is not required to extend the insurance of the Works and other Risk Items for a Section that has reached Substantial Completion until the Employer's Representative issues the certificate of Substantial Completion for the whole Works.	1	item			
K	Required extensions to Insurance: N/A	1	item			
L	Professional Indemnity Insurance is required	1	item			
M	If required, the Professional Indemnity Insurance is in place it must be kept in place for 12 years after Substantial Completion of the Works is certified by the Employer's Representative	1	item			
N	If required the minimum indemnity limit for professional indemnity insurance shall be €750,000 annual aggregate limit	1	item			
P	The maximum excess shall be the greater amount of 2% of the Contractor's annual turnover or €5,000.	1	item			
	E. Performance Bond (Sub-clause 1.5)					
	A performance bond is required					
Q	The amount of the performance bond shall be 12.5% of the initial Contract Sum up to certification of Substantial Completion of the Works, and 6.25% of the initial Contract Sum for 450 days after that.	1	item			
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	2. CONTRACT (Cont)					
	F(i). Collateral Warranties (Sub-clause 5.5)					
	Collateral Warranties are required from the following categories of Specialists, by the following dates; and the amount withheld from payments under sub-clause 11.4.1 area as follows:					
A	Not applicable	1	item			
	F(ii). Ancillary Certificates (Sub-clause 5.8)					
	Ancillary Certificates are required from the following categories of Contractor's Personnel. The list reflects the works elements known at the time of tender but does not limit the Contractor's duties under sub-clause 2.3.1:					
B	Refer to list of Ancillary Certificates included in Volume B - Schedule Part 1 (Note: The contractor should note that the list is not exhaustive).	1	item			
	F(iii). Named Specialists (Sub-clause 5.4)					
C	Not applicable	1	item			
	G. Dates for Substantial Completion, Sections, Liquidated Damages, Retention					
	The Works					
D	Date for Substantial Completion: Last day of 8 weeks starting on the contract date and including first threshold under Clause 9.4	1	item			
E	Rate of Liquidated Damages: €9,000 per week	1	Item			
	H. Early Completion (Sub-clause 9.6)					
F	The Employer's Representative is required to issue the certificate of Substantial Completion if the Works or a Section reaches Substantial Completion before its Date for Substantial Completion.	1	item			
	I. Defects Period					
G	The initial Defects Period is one year from the date of Substantial Completion of the Works	1	Item			
	J. Random Checks for Employment Records					
H	Sub-clause 5.3.3A(2) shall be part of the contract	1	Item			
	K. Delay Events, Compensation Events, Programme Contingency, Delay Costs, Adjustments (Sub-clauses 9.3,9.4, 10.1, 10.6, 10.7)					
J	Event Nr 17 (Compensation Event - Yes)	1	item			
K	Event Nr 18 (Compensation Event - Yes)	1	item			
L	Event Nr 19 (Compensation Event - Yes)	1	item			
				To Collection €		

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	2. CONTRACT (Cont)					
A	Event Nr 20 (Compensation Event - Yes)	1	item			
B	Event Nr 21 (Compensation Event - Yes)	1	item			
C	Weather station for measurement of weather events: Dunsany weather station	1	item			
D	An order or other act of a court or other public authority exercising authority under Law includes a Covid-19 Mandatory Closure.	1	item			
	In Sub-clause 9.4					
E	The programme contingency is five (5) Site Working Days of delay caused by Compensation Events	1	item			
F	In Sub-clause 10.6.4(3), the rates to be used to determine the cost of plant are the rates in: Not applicable	1	item			
	Modified as follows:					
G	Rates will be treated as if in euro and any rates in the Pricing Document	1	item			
	In sub-clause 10.7, the amount to be added for delay cost is in accordance with sub-clause 10.7.1(2) the daily rate tendered by the Contractor in the Schedule, part 2D					
H	For the purposes of sub-clause 10.7, the Contractor is to tender in part 2D a single daily rate for delay costs	1	item			
	L. Payment Particulars (Clause 11)					
J	Period for interim payment is: Monthly	1	Item			
K	Minimum amount for interim payments, except release of retention, €5,000.00	1	Item			
L	Up to the percentage stated below of the Contract value of the following unfixed Works Items may be included in an interim payment in accordance with sub-clause 11.2:	1	Item			
M	On-Site Materials % of Contract value: 90%	1	Item			
N	Off-Site Materials with Bond % of Contract value: 90%	1	Item			
P	The retention percentage is 3%	1	Item			
	M. Cap on Liability (Sub-clause 3.10)					
	Subject to sub-clause 3.10.2 of the Conditions of Contract, the monetary amount of the Contractor's liabilty to the EMployer under or arising out of this Contract shall not exceed the amount stated below:					
Q	€Amount equal to Contract Sum	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	N. Conciliation, Adjudication and Arbitration (Sub-clauses 13.2, 13.3 and 13.4)					
A	Failing agreement, the conciliator (or Standing Conciliator) will be appointed by: The President of the RIAI	1	item			
B	The arbitration rules are the Capital Works Management Framework (CWMF) Arbitration Rules for use with Public Works and Construction Services Contracts (AR1)	1	Item			
C	The person or body to appoint the arbitrator, if not agreed by the parties, is The President of the RIAI	1	Item			
D	The person to appoint the adjudicator, if not agreed by the parties is Chairperson of the Panel of Adjudicators	1	Item			
	O. Rights in Contractor's Documents (Sub-clause 6.4)					
E	Copyright and all other rights in the following Contractor's Documents and Works Proposals described in sub-clause 6.4.2 transfers to the Employer in accordance with sub-clause 6.4: Nil	1	Item			
	P. Material Categories (sub-clause 15.9.1)					
F	Table 1B (All Materials Category only) applies.	1	Item			
	STATUTORY COMPLIANCE					
	Planning					
G	The Contractor shall comply with all planning permissions (where applicable) relating to the Works, including all conditions attached thereto, and shall ensure that the execution of the Works does not give rise to any breach of such conditions.	1	Item			
	Fire Safety					
H	The Contractor shall comply with all Fire Safety Certificates (where applicable) relating to the Works, including all conditions attached thereto, and shall ensure that the execution of the Works does not give rise to any breach of such conditions.	1	Item			
J	The Contractor shall engage a competent third party Fire Safety Certifier to provide an Ancillary Inspection Completion Certificate (SI RIAI ACI 02) in accordance with SI No. 9, in respect of all works relating to fire safety, including compliance with Building Regulations Part B and any applicable Fire Safety Certificate.	1	Item			
	Inspect & photograph each and every element of fire protection during construction:					

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	2. CONTRACT (Cont)					
A	Provide a detailed report and photographic log upon completion with interim reports at each fortnightly site meeting.	1	Item			
B	Provide Cs Cert for the supply & installation of the fire stopping.	1	Item			
	Disability Access Certificates (DAC)					
C	Not Applicable	1	Item			
	Building Control (Amendment) Regulations 2014					
D	Where applicable, the Contractor shall comply in full with the Building Control Regulations (as amended), including the Building Control (Amendment) Regulations 2014 and the associated Code of Practice for Inspection and Certification.	1	Item			
E	The Contractor shall be responsible for the timely submission of all notices, documentation and statutory certificates required under the Regulations and shall ensure that no works commence until a valid Commencement Notice has been accepted by the Building Control Authority.	1	Item			
	Certification and Coordination					
F	The Contractor shall cooperate fully with the Assigned Certifier, Employer's Representative and Design Team and shall provide all information, documentation, inspections and confirmations required to support certification and compliance.	1	Item			
G	The Contractor shall coordinate all subcontractors, specialists and designers to ensure the provision of all Ancillary Certificates, test certificates and inspection records required for completion and certification of the Works.	1	Item			
	Inspection Plan and Notifications					
H	The Contractor shall comply with the Preliminary Inspection Plan and Inspection Notification Framework and shall allow for all inspections, notifications, testing and record keeping required.	1	Item			
J	No claim for delay or additional cost shall arise from the Contractor's failure to properly plan, notify, coordinate or complete inspections or provide required documentation.	1	Item			
	Records and Handover					
K	The Contractor shall maintain full and accurate records of inspections, tests and compliance throughout the Works and shall provide same to the Assigned Certifier as required.	1	Item			
L	Prior to completion, the Contractor shall provide all documentation necessary to enable certification and registration of the Works on the Building Control Management System.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	Completion					
A	The Contractor shall ensure that all certification requirements are satisfied to enable completion of the Works, including the submission of the Certificate of Compliance on Completion where applicable.	1	Item			
	Ancillary Certification					
B	The Contractor shall engage and coordinate all necessary Ancillary Certifiers and ensure that all Ancillary Certificates are provided in accordance with the Works Requirements and the Building Control Regulations.	1	Item			
	Additional BC(A)R Requirements					
	Fire Protection Photographic Log					
C	Inspect & photograph each and every element of fire protection during construction:	1	Item			
D	Provide a detailed report and photographic log upon completion with interim reports at each fortnightly site meeting	1	Item			
E	Provide Cs Cert for supply & installation of firestopping	1	Item			
	COMPLIANCE WITH BUILDING CONTROL ACT 2007					
F	All building works to conform fully with the requirements of the Building Control Act 2007 (including current amendments) and specific items of works are to be executed strictly in accordance with the recommendations set out in the various Technical Guidance documents. A full set of the Technical Guidance Documents to be provided and kept on site at the Contractor's expense.	1	Item			
G	The Contractor on completion of the said Contract Works is to issue a certificate in a form acceptable to the Employer's Representative and Client confirming that all the Contract Works have been executed in accordance with the requirements of the Building Control Act 2007 and any amendments thereof.	1	Item			
	CONSTRUCTION CONTRACTS ACT 2013					
H	The Contractor shall comply with the Main Contractor requirements as set out in the Construction Contracts Act 2013 and shall include for all costs associated with same. The "payment claim date" shall fall within the final full calendar week of each month for the duration of the construction Contract until the Certificate of Practical Completion is awarded.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	2.2 Contractor's liability					
A	Contractors liability for risk or injury to persons and property and of damage to the works.	1	Item			
B	Provide for taking out and maintaining Public Liability and Employer's liability Insurances against injury to persons and property (minimum sum for Public Liability Insurances: (€6,500,000 for each and every claim; minimum sum for Employer's Liability Insurance €13,000,000) as required by the Conditions of Contract.	1	Item			
C	The Employer requires the Contractor to effect insurance in respect of the Contractor's liability for any such risk.	1	Item			
D	Provide for taking out and maintaining All Risks Insurance for the full value of the Works and ancillary items required by the Conditions of Contract.	1	Item			
E	The Contractor shall be responsible for any damage to adjoining property or existing site features arising from the Works and shall make good same at their own expense. The Contractor shall indemnify the Employer against any such claims.	1	Item			
F	Before commencement of the Works, the Contractor shall submit proposals for the off-site disposal of waste materials, which shall only be disposed of at suitably licensed or permitted facilities in accordance with the Waste Management Acts. Details shall be submitted to and agreed with the Employer's Representative.	1	Item			
G	The prices and rates shall include for any costs arising from the Contractor's obligations under the Waste Management Act 1996. or any other environmental legislation, with particular regard to the holding, transport recovery and disposal of waste arising from the carrying out of the works.	1	Item			
H	Insurances provided by Contractors must be authorised for this jurisdiction.	1	Item			
J	Any insurance policies which are renewed on or after 01 January 2021 with a UK domiciled Insurer will not be permitted in the ROI.	1	Item			
K	Any insurance policies which were in force prior to 01 January 2021 with a UK domiciled Insurer will remain valid (solely for the purposes of paying claims) for a period of 15 years.	1	Item			
L	Where asbestos handling or removal forms part of the Works, the Contractor shall ensure appropriate insurances are in place, including Employers Liability and Public/Products/Pollution Liability, with the Employer named as additional insured where required.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	2.3 Insurance liability of Employer					
A	The Employer shall bear the risk of loss or damage to its existing facilities and to those parts of the Works which it occupies or uses, in accordance with the Conditions of Contract.	1	Item			
	2.4 Local Authority fees and charges					
B	The Contractor shall be responsible for obtaining all necessary approvals, permits and licences required for the execution of the Works and shall include for all associated costs.	1	Item			
C	The Contractor shall comply with all statutory requirements and liaise with the relevant authorities as necessary. No additional costs shall be entertained in this regard.	1	Item			
	2.5 Obligations and restrictions imposed by the Employer					
	a) Access to and possession or use of the site.					
	Construction Access					
D	The Contractor shall be responsible for providing, maintaining and managing all access to the Works areas, including pedestrian and vehicular access, and shall ensure safe and secure ingress and egress at all times.	1	Item			
E	The Contractor shall be deemed to have satisfied themselves as to all access constraints and site conditions prior to submission of their tender.	1	Item			
	Construction Access and Traffic Management					
F	The Contractor shall be responsible for all traffic management associated with the Works, including the preparation and implementation of a Construction Traffic Management Plan.	1	Item			
G	The Contractor shall ensure that construction activities, deliveries and removals are coordinated to minimise disruption to school staff, local residents and the public, and shall allow for the continued operation of the school sites where staff may be present.	1	Item			
H	Construction and school-related activities shall be appropriately segregated at all times, and all access routes shall be maintained in a safe, clean and operational condition.	1	Item			
	Restrictions on Use of Site					
J	The Contractor's operations shall be confined to the designated Works areas and shall not interfere with the operation of the remainder of the school sites.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
A	The Contractor shall provide all necessary security measures, including controlled access points, and shall prevent unauthorised access to the Works areas at all times.	1	Item			
B	The Contractor shall ensure that existing emergency access and egress routes are maintained throughout the duration of the Works.	1	Item			
	Site Management and Control					
C	The Contractor shall implement appropriate site management procedures, including a site access control system, and shall ensure that all personnel entering the Works are properly managed and supervised.	1	Item			
D	The Contractor shall not use the Site for any purpose other than the execution of the Works.	1	Item			
	Access for Employer's Representative					
E	The Employer's Representative and authorised persons shall be afforded full access to the Works, the Site and any workshops or locations where materials or components are being prepared for incorporation into the Works.	1	Item			
	b) Limitations of working space					
F	The Contractor shall allow for all constraints associated with the limited working areas at each site and shall plan and execute the Works accordingly.	1	Item			
G	All Contractor and staff parking shall be confined to designated areas within the site boundaries, unless otherwise agreed.	1	Item			
H	The Contractor shall confine their operations, storage of materials, plant and welfare facilities to the designated Works areas only and shall ensure that all areas are maintained in a safe, tidy and controlled condition.	1	Item			
J	The Contractor shall ensure appropriate segregation between construction activities and any areas of the school sites that remain in use, including provision of safe access routes where required.	1	Item			
K	The Contractor shall be responsible for any damage to buildings, services, roads or external areas arising from the Works and shall make good same at their own expense.	1	Item			
L	Where works extend beyond the immediate Works areas, the Contractor shall include for all necessary temporary works, protection, signage, permits and reinstatement to the satisfaction of the relevant authority.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	c) Limitations of working hours.					
	The limitations on working hours will apply:					
A	The Contractor shall carry out the Works during normal working hours, as agreed with the Employer's Representative, and in accordance with any statutory requirements or planning conditions where applicable.	1	Item			
B	The Contractor shall ensure that noise, vibration and general disturbance arising from the Works are minimised at all times.	1	Item			
C	Any works required outside agreed working hours shall be subject to the prior approval of the Employer's Representative and compliance with all statutory requirements.	1	Item			
	d) Limitations on use operation of plant with respect to adjoining property					
D	The Contractor shall carry out the Works in a manner that minimises nuisance to adjoining properties and any occupied areas of the school sites, including control of noise, dust and vibration.	1	Item			
E	The Contractor shall implement appropriate control measures and method statements as necessary and shall comply with all relevant statutory requirements and any planning conditions where applicable.	1	Item			
	e) The use or disposal of any material found on the site.					
F	No materials arising from the Site shall be removed or reused except in accordance with the instructions of the Employer's Representative.	1	Item			
G	The Contractor shall be responsible for the proper handling, storage and disposal of all waste and surplus materials arising from the Works in accordance with all statutory requirements.	1	Item			
H	The Contractor shall ensure that no deleterious materials are discharged into drainage systems or the surrounding environment and shall maintain appropriate records of waste disposal.	1	Item			
J	Where hazardous or contaminated materials are encountered, the Contractor shall comply with all relevant statutory requirements and implement appropriate control and safety measures.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	f) Hoardings, fences, screens, temporary roofs, temporary name boards and advertising rights.					
A	The Contractor shall provide and maintain all necessary temporary fencing, hoarding, barriers and protection required to safely segregate the Works areas from the remainder of the school sites and the public.	1	Item			
B	Such measures shall be appropriate to the nature and scale of the Works and shall generally comprise secure temporary fencing (e.g. Heras or similar), unless otherwise required by the Works Requirements or Employer's Representative.	1	Item			
C	The Contractor shall ensure that the Works areas are secure at all times and that unauthorised access is prevented. Safe access routes shall be maintained for school staff and others where required.	1	Item			
D	The Contractor shall provide all necessary signage, including safety signage and directional signage for construction access and deliveries. No advertisements or signage shall be displayed without the approval of the Employer's Representative.	1	Item			
E	The Contractor shall allow for dust control measures as necessary, including localised dust screens or partitions within buildings where works are carried out in proximity to occupied areas.	1	Item			
F	All temporary works and protection measures shall be maintained for the duration of the Works and removed on completion, with all affected areas made good.	1	Item			
	g) The maintenance and protection of existing services on, under or over the site.					
G	The Contractor shall identify, protect and maintain all existing services on, under or over the site for the duration of the Works.	1	Item			
H	The Contractor shall plan and execute the Works to minimise disruption to existing services and shall ensure that all services remain operational, except where temporary interruptions are agreed in advance with the Employer's Representative and the school.	1	Item			
J	The Contractor shall verify the location of all existing services prior to commencing works and shall be responsible for avoiding damage to same.	1	Item			
K	Where works involve connections to or alterations of existing services, these shall be carefully coordinated and carried out with the minimum disruption, including provision for any temporary measures required to maintain service continuity.	1	Item			
L	The Contractor shall comply with all statutory requirements and liaise with relevant service providers where necessary.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
A	The Contractor shall be responsible for any damage to existing services and for the full cost of repair, reinstatement and any associated consequences arising from their operations.	1	Item			
B	The Contractor shall allow for all necessary investigations to confirm the location and condition of existing services and no claims shall arise due to lack of knowledge in this regard.	1	Item			
	h) The execution or completion of the work in any specific order or in sections or phases, including any coincidental work not at the discretion of the contractor.					
C	The Works shall be planned and executed in a manner that minimises disruption to the operation of the school sites, with due regard to the presence of school staff and other users.	1	Item			
D	The Contractor shall coordinate and sequence the Works appropriately across the various sites and shall allow for restricted access to certain areas where required.	1	Item			
E	The Contractor shall liaise with the Employer's Representative and school representatives to agree the timing of any works that may impact access or services.	1	Item			
	Services Connections / Tie-ins					
F	Where the Works involve connections to or modifications of existing services, the Contractor shall plan and coordinate such works to minimise disruption.	1	Item			
G	Any required service interruptions shall be agreed in advance with the Employer's Representative and the school and shall be carried out at appropriate times.	1	Item			
H	The Contractor shall include for all programming, temporary works and measures necessary to facilitate such connections.	1	Item			
	Working Outside Designated Areas					
J	Where works are required outside the immediate Works areas, the Contractor shall liaise with the relevant stakeholders and obtain agreement on access, extent and timing in advance of carrying out such works.	1	Item			
	i) Maintenance of specific temperature and humidity levels.					
K	The Contractor shall provide any necessary temporary measures required to protect the Works and ensure suitable environmental conditions for installation and commissioning of equipment.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	j) Temporary accommodation and facilities for the use of the Employer including heating, lighting, furnishing and attendance.					
A	The Contractor shall provide all temporary accommodation and welfare facilities required for the execution of the Works in accordance with statutory requirements.	1	Item			
B	The Contractor shall allow for meetings to be held on site in agreed locations, including within the existing school buildings where suitable and permitted.	1	Item			
C	The Contractor shall provide adequate sanitary and welfare facilities for site personnel for the duration of the Works.	1	Item			
	k) Provision of connections to temporary voice and data communications systems for use of the Employer.					
D	The Contractor shall provide all communication systems necessary for the proper execution and management of the Works.	1	Item			
	l) Periodic using and access charges on voice and data communications systems for use of the Employer and associated running costs.					
E	No dedicated temporary voice or data communication systems shall be required for the Employer unless specifically stated in the Works Requirements.	1	Item			
	m) Provision of the Project Supervisor Construction Stage services by the Contractor under the Safety, Health and Welfare at Works (Construction) Regulations.					
F	The Contractor shall act as Project Supervisor for the Construction Stage (PSCS) and shall comply with all duties under the Safety, Health and Welfare at Work (Construction) Regulations 2013.	1	Item			
G	The Contractor shall prepare, implement and maintain the Construction Stage Safety and Health Plan and shall coordinate all contractors and activities on site.	1	Item			
H	The Contractor shall cooperate with the PSDP and provide all information required for the Safety File.	1	Item			
	Safety File The Contractor shall provide all information necessary for inclusion in the Safety File, including relevant drawings, specifications, certificates and operation and maintenance information, prior to completion of the Works.					
				To Collection €		

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	2. CONTRACT (Cont)					
	As-Built Information & O&M Manuals					
A	The Contractor shall provide as-built drawings and operation and maintenance manuals for all installed systems and equipment.	1	Item			
B	Documentation shall include details of installed plant, operating instructions, maintenance requirements, test certificates and warranties, as applicable to the Works.	1	Item			
	Completion Certificates					
C	The Contractor shall provide all relevant completion and test certificates for the Works, including:	1	Item			
D	Electrical installation certification (ETCI or equivalent)	1	Item			
E	Mechanical and equipment commissioning certificates	1	Item			
F	Manufacturer's certificates and warranties	1	Item			
G	Any ancillary or statutory certificates required under the Contract	1	Item			
	Temporary Works					
H	The Contractor shall be responsible for the design, installation and safety of all temporary works required for the execution of the Works and shall comply with all statutory requirements.	1	Item			
	Fire Safety					
J	The Contractor shall ensure that fire safety measures are maintained at all times during the Works and that all works comply with Building Regulations Part B and any applicable Fire Safety Certificate.	1	Item			
K	The Contractor shall provide all relevant fire safety certification on completion where applicable.	1	Item			
	Security					
L	The Contractor shall ensure that all Works areas are secure at all times and that unauthorised access is prevented.	1	Item			
M	Appropriate site control measures, including a sign-in/sign-out system, shall be implemented.	1	Item			
	Environmental					
N	The Contractor shall comply with all statutory environmental requirements and shall ensure proper management, storage and disposal of waste materials.	1	Item			
P	The Contractor shall take all reasonable measures to prevent pollution, nuisance and environmental damage arising from the Works.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	Cleaning and Handover					
A	The Contractor shall maintain the Works in a clean and tidy condition throughout and shall, on completion, leave all areas clean and ready for use.	1	Item			
	n) Any other obligation or restriction					
	ESB					
B	The Contractor shall be responsible for liaising with all relevant statutory authorities and service providers, including where applicable ESB, in relation to any connections, approvals or works required as part of the project.	1	Item			
C	The Contractor shall include for all associated requirements to ensure that any necessary connections or modifications to services are completed within the programme.	1	Item			
	Programme					
D	The Contractor shall prepare and submit a detailed programme prior to commencement of the Works, indicating the sequence and duration of all activities, including procurement, installation, testing and commissioning.	1	Item			
E	The programme shall demonstrate completion of the Works within the Contract period and shall be updated as required during the course of the Works.	1	Item			
F	The Contractor shall coordinate the Works across all sites and allow for any constraints associated with access, service connections and working in existing school environments.	1	Item			
G	The Contractor shall allow for all necessary submissions, inspections and approvals required under the Contract and statutory requirements within the programme.	1	Item			
H	Include all the requirements set out in Clause 4.9.1 of the Contract	1	Item			
	Use of Services Prior To Handover					
J	The Contractor shall be responsible for the cost of all utilities used for construction, testing and commissioning of the Works prior to completion.	1	Item			
K	The Contractor shall provide and maintain all services necessary for the proper execution and completion of the Works.	1	Item			
	Materials & Workmanship					
L	All materials and products used in the Works shall comply with the Construction Products Regulation (EU) No. 305/2011 and all applicable standards.	1	Item			
				To Collection €		

2. CONTRACT (Cont)

A	British Standards (BS) and British Board of Agrement (BBA) certification are not acceptable methods of demonstrating compliance in accordance with Construction Products Regulation (EU) No 305/2011.	1	Item			
B	Products shall be CE marked where required and be accompanied by the relevant Declaration of Performance.	1	Item			
C	Where alternative materials or products are proposed, the Contractor shall provide evidence of equivalence in advance for approval.	1	Item			
	Regulations & Current Standards					
D	The Works shall be carried out in accordance with all applicable statutory requirements, Building Regulations, and relevant national and European standards and codes of practice.	1	Item			
E	All referenced standards shall be the latest applicable editions at the time of tender.	1	Item			
	Schedule of Samples					
F	The Contractor shall submit samples of materials and workmanship as required by the Works Requirements or as reasonably requested by the Employer's Representative (ER) for approval prior to incorporation into the Works.	1	Item			
G	Approved samples shall set the standard for the Works.	1	Item			
H	The Contractor shall allow for all costs associated with sampling and testing.	1	Item			
J	All testing of mechanical and electrical Works shall be in accordance with the Mechanical and Electrical Materials & Workmanship Specification.	1	Item			
	Submittals					
K	The Contractor shall not commence relevant works until required submittals have been reviewed by the ER.	1	Item			
L	The Contractor shall provide a schedule of submittals in line with the programme and allow reasonable time for review.	1	Item			
M	Submittals shall demonstrate compliance with the Works Requirements.	1	Item			
	Storage of Materials					
N	Materials shall be stored in a safe and suitable manner in accordance with manufacturer's recommendations and best practice.	1	Item			
	Workmanship					
P	All workmanship shall comply with applicable Building Regulations, standards and specifications.	1	Item			

To Collection €

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	2. CONTRACT (Cont)					
A	Works shall be carried out by suitably qualified and experienced personnel and completed to a high standard.	1	Item			
	Method Statements					
B	The Contractor shall prepare and submit method statements for key elements of the Works where required by the Works Requirements or reasonably requested by the ER.	1	Item			
C	Works shall not proceed until relevant method statements are in place where required.	1	Item			
	Building Fabric Standards					
D	The Works shall comply with all current Building Regulations and applicable standards, including Part L (Conservation of Fuel and Energy).	1	Item			
E	The Contractor shall ensure that the building achieves the required air tightness performance and shall carry out air permeability testing on completion.	1	Item			
F	The Contractor shall publish and submit BER Certificate, including NCT or equivalent as built model.	1	Item			
G	Acoustic testing shall be carried out where required in accordance with Department of Education guidance.	1	Item			
H	Where applicable, radon protection measures shall be installed and tested in accordance with Building Regulations.	1	Item			
J	All testing and certification shall be submitted to the Employer's Representative prior to completion.	1	Item			
	CE Marking					
K	All construction products used in the Works shall comply with the Construction Products Regulation (EU) No. 305/2011.	1	Item			
L	Products shall be CE marked where required and be accompanied by a valid Declaration of Performance (DoP).	1	Item			
M	Products certified by UK notified bodies will not be accepted unless compliant with EU requirements. Any non-compliant products shall be removed and replaced at the Contractor's cost.	1	Item			
	Testing and Commissioning					
N	The Contractor shall carry out all testing and commissioning necessary to demonstrate that the Works comply with the Works Requirements and applicable standards.	1	Item			
P	Testing and commissioning proposals shall be submitted to the Employer's Representative (ER) for review.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
A	All systems shall be fully tested and commissioned prior to completion, and relevant records and certificates shall be provided to the ER.	1	Item			
	Quality Assurance and Quality Control					
B	The Contractor shall implement and maintain a quality management system appropriate to the Works.	1	Item			
	This shall include:					
C	- inspection and test plans where required	1	Item			
D	- supervision of works and subcontractors	1	Item			
E	- ensuring compliance with the Works Requirements and Building Regulations	1	Item			
F	Quality records shall be maintained and made available to the ER on request.	1	Item			
	Non-Conformance / Defects					
G	The Contractor shall promptly address any defects or non-conformances identified during the Works and maintain records of same.	1	Item			
	Contractor's Monthly Progress Reports					
	The Contractor shall submit regular progress reports prior to site meetings, including:					
H	- progress against programme	1	Item			
J	- key issues affecting progress	1	Item			
K	- look-ahead of upcoming works	1	Item			
L	- any required information or decisions	1	Item			
M	Progress photographs shall be provided as part of the report.	1	Item			
	Control of Noise & Nuisance					
N	The Contractor shall carry out the Works in a manner that minimises noise, vibration, dust and general disturbance to the school and adjoining properties.	1	Item			
P	Works shall be carried out in accordance with applicable guidance, including BS 5228, where relevant.	1	Item			
Q	The Contractor shall take all reasonable measures to avoid nuisance and shall comply with any reasonable directions of the Employer's Representative in this regard.	1	Item			
				To Collection €		

2. CONTRACT (Cont)

	General Nuisance / Liaison					
A	The Contractor shall coordinate the Works with the school and shall ensure minimal disruption to ongoing activities.	1	Item			
B	Any complaints arising shall be promptly addressed by the Contractor.	1	Item			
	Tax Clearance					
C	The Contractor shall comply with all statutory requirements in relation to tax clearance and shall ensure that all subcontractors engaged on the Works are similarly compliant.	1	Item			
	Custom Duties					
D	The Contractor shall be deemed to have included for all applicable duties and statutory charges in their tender.		Item			
	Value Added Tax (VAT)					
E	The tender shall be submitted on a VAT exclusive basis. However tenderers shall list separately the items included in the tender amount that are liable for VAT at rates other than the special building rate (13.5%) to allow for the calculation of the Employer's total VAT outlay on the contract. The Employer reserves the right to seek advice from the Revenue Commissioners on the accuracy of the VAT allocations shown and, in the event of a dispute, the opinion of the Revenue Commissioners on the VAT rate appropriate to any item of work shall be final (See Appendix A of this Pricing Document).	1	Item			
	During the Contract, payment amounts due to the Contractor shall be invoiced on the following basis:					
F	(a) the amount due to the Contractor that carries a VAT liability of 13.5% shall be invoiced separately from any other amounts due. This invoice shall be clearly marked with the statement 'VAT ON THIS SUPPLY TO BE ACCOUNTED FOR BY THE PRINCIPAL CONTRACTOR'	1	Item			
G	(b) amounts due to the Contractor that carry no VAT liability, or are liable at rates other than 13.5%, shall be invoiced on a second invoice that identifies amounts due at the various VAT rates (apart from 13.5%), identifies the VAT due at the various rates and states the total amount due for payment.	1	Item			
	Patent Rights and Royalties					
H	The Contractor shall indemnify the Employer against any claims arising from infringement of patent rights, trademarks or other protected rights in connection with the Works.	1	Item			
	Removal of Improper Work and Materials					
J	The Employer's Representative may instruct the removal and replacement of any work or materials not in accordance with the Contract.	1	Item			

To Collection €

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	2. CONTRACT (Cont)					
	Other items for consideration					
A	The Works shall be completed to a standard suitable for occupation and use prior to certification of Substantial Completion. Any outstanding items shall be minor in nature and not prevent the intended use of the Works.	1	Item			
B	The Contractor shall coordinate deliveries and site activities to minimise disruption to the school and surrounding area.	1	Item			
	Site House Keeping					
C	The Contractor shall maintain the Site in a safe, clean and orderly condition at all times.	1	Item			
D	Prevent dust, debris and nuisance arising from the Works	1	Item			
E	Maintain clear access for emergency vehicles at all times	1	Item			
F	Ensure no burning of waste or uncontrolled emissions on site	1	Item			
G	Protect and maintain existing drainage systems	1	Item			
H	Carry out works in a manner that minimises disruption to the school and surrounding area	1	Item			
	Road Cleaning					
J	The Contractor shall ensure that adjoining roads and access routes are kept clean and free from mud and debris arising from the Works.	1	Item			
K	All cleaning measures shall be at the Contractor's expense.	1	Item			
	Pre-Commencement Survey					
L	Prior to commencement, the Contractor shall carry out a survey of existing site conditions and report any discrepancies to the Employers Representative.	1	Item			
	Schedule of Dilapidations					
M	The Contractor shall, upon taking possession of the Site, provide a photographic record of the condition of adjacent roads, boundaries, buildings and any areas likely to be affected by the Works.	1	Item			
N	This record shall be submitted to the Employer's Representative and shall not relieve the Contractor of their obligations under the Contract.	1	Item			
P	Where works interface with existing buildings, the Contractor shall inspect and record the condition of affected areas prior to commencement and allow for all necessary protection and making good.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	Extended Guarantees					
A	Provide all warranties and guarantees as specified in the Works Requirements.	1	Item			
	Discovery of Items					
B	Any items of potential historical or archaeological interest discovered during the Works shall be reported to the Employers Representative and works in the affected area shall cease pending instruction.	1	Item			
	Environmental Management					
C	The Contractor shall comply with all statutory environmental requirements and implement appropriate measures to control dust, noise, waste and pollution arising from the Works.	1	Item			
D	Where required, a Construction Environmental Management Plan shall be prepared and maintained.	1	Item			
	Waste Management					
E	All waste shall be managed, stored and disposed of in accordance with current legislation. Only authorised waste facilities shall be used.	1	Item			
	Services Co-ordination					
F	The Contractor shall be responsible for the coordination of all building services and utility connections, including liaison with relevant authorities and ensuring timely installation, testing and commissioning.	1	Item			
	Maintenance During Defects Period					
G	The Contractor shall maintain all installed systems and rectify defects during the Defects Liability Period in accordance with the Contract.	1	Item			
	Guarantees and Warranties					
H	Provide all warranties, guarantees and certification as required under the Works Requirements and Specification.	1	Item			
	Schedule of Guarantees					
J	The contractor shall include a cost herein for providing all required Guarantees/ Insurance Back Guarantees for the various elements of works. as outlined in the Volume A Works Requirements. No claims on the grounds of want of knowledge will be entertained whatsoever.	1	Item			
	Progress Records					
K	The Contractor shall maintain appropriate records of progress and provide updates as reasonably required by the Employer's Representative.	1	Item			
				To Collection €		

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	2. CONTRACT (Cont)					
	Handover Requirements					
	Prior to Substantial Completion, the Contractor shall provide:					
A	All statutory and BCAR certification	1	Item			
B	O&M manuals and as-built drawings	1	Item			
C	Test and commissioning records	1	Item			
D	Warranties and guarantees	1	Item			
E	Safety File	1	Item			
F	All works shall be fully completed, tested and snagged prior to handover.	1	Item			
				To Collection €		

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2. CONTRACT (Cont)					
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2. CONTRACT (Cont)					
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2. CONTRACT **Carried to Summary**					

	3. WORK BY NOVATED SPECIALISTS, SPECIALISTS, WORK BY UTILITY PROVIDERS AND WORK BY OTHERS ENGAGED DIRECTLY BY T				
	3. WORK BY NOVATED SPECIALISTS, SPECIALISTS, WORK BY UTILITY PROVIDERS AND WORK BY OTHERS ENGAGED DIRECTLY BY THE EMPLOYER				
	3.1 Work by Novated Specialists and other Specialists				
A	n/a		Note		
	3.2 Work by Utility Providers				
B	Capital contributions to statutory utility providers (e.g. ESB) shall be paid by the Employer.	1	Item		
	The Contractor shall:				
C	Liaise with all utility providers	1	Item		
D	Coordinate all connections and diversions	1	Item		
E	Allow for all temporary connections and diversions required for the Works	1	Item		
F	Include all costs associated with facilitating and coordinating these works	1	Item		
	3.3 Work by others engaged directly by the Employer				
G	The Employer may appoint others to carry out specialist works or inspections associated with the project.	1	Item		
	The Contractor shall:				
H	Liaise and coordinate with such parties	1	Item		
J	Provide reasonable access to the Site and Works	1	Item		
K	Coordinate the programme to accommodate such works where required	1	Item		
L	The Contractor shall not be responsible for the supply or execution of such works unless specifically included in the Contract.	1	Item		

To Collection €

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3. WORK BY NOVATED SPECIALISTS, SPECIALISTS, WORK BY UTILITY PROVIDERS AND WORK BY OTHERS ENGAGED DIRECTLY BY T					
COLLECTION					
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3. WORK BY NOVATED SPECIALISTS, SPECIALISTS, WORK BY UTILITY PROVIDERS AND WORK BY OTHERS ENGAGED DIRECTLY **Carried to Summary**					

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	4. GENERAL FACILITIES AND OBLIGATIONS					
	4. GENERAL FACILITIES AND OBLIGATIONS					
A	Maintaining temporary works, adapting, clearing away and making good shall be deemed to be included with the following items Under 4. (General Facilities And Obligations). Notices and fees to statutory Authorities or Public of Private Utility Providers or Undertakings and related to the preceding items shall be deemed to be included with those items. No claims in this regard will be entertained whatsoever.	1	Item			
	a) Supervision and co-ordination of the Works.					
B	The Contractor shall be responsible for the coordination, supervision and management of the Works, including all subcontractors and compliance with Building Regulations where applicable.	1	Item			
	The Contractor shall:					
C	Coordinate all works with the Employer, Design Team and school operations	1	Item			
D	Programme and manage subcontractors and suppliers	1	Item			
E	Ensure works are carried out safely and in accordance with the Contract	1	Item			
	Building Regulations / BCAR					
	The Contractor shall:					
F	Comply with all applicable Building Regulations relevant to the Works	1	Item			
G	Provide all necessary inspection records, test certificates and documentation	1	Item			
H	Cooperate with the Assigned Certifier and Design Team as required	1	Item			
	Method Statements					
	The Contractor shall submit method statements for key activities including:					
J	Installation of heating systems and associated services	1	Item			
K	Works in live/occupied environments	1	Item			
L	Any temporary works or isolations required	1	Item			
M	Method statements shall demonstrate safe systems of work and compliance with the Contract.	1	Item			
	Supervision Staff					
N	The Contractor shall provide adequate and competent supervision appropriate to the scale of the Works.	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
	Temporary Works (If Required)					
A	The Contractor shall be responsible for the design, coordination and implementation of any temporary works required to complete the Works safely.	1	Item			
	b) Plant, tools and vehicles					
B	The Contractor shall provide all plant, tools, transport and equipment necessary to complete the Works, including delivery, maintenance and removal on completion.	1	Item			
	The Contractor shall allow for:					
C	- bringing all such plant to site and removing on completion	1	Item			
D	- maintaining on site for the duration of the works.	1	Item			
	Removal of Plant					
E	Plant shall be removed from site as agreed with the Employer's Representative.	1	Item			
	c) Scaffolding					
F	The Contractor shall provide safe access equipment as required for the Works, including scaffolding, podiums or MEWPs, in compliance with all relevant safety regulations.	1	Item			
	d) Site administration including the provision and keeping of all statutory records.					
	The Contractor shall:					
G	Provide site supervision, security and protection of the Works	1	Item			
H	Maintain site records including labour, materials and testing	1	Item			
J	Provide photographic record of pre-existing conditions where required					
	Site Records / Progress Records					
K	Maintain records of progress, labour, materials and tests, and make available to the Employer's Representative upon request.	1	Item			
	Progress Meetings					
L	Attend regular progress meetings and coordinate subcontractors as required.	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
	Valuations					
A	Submit when applicable, up to date detailed claims and supporting documents in accordance with the Conditions of Contract	1	Item			
	Method Statement and Construction Management Plan					
	The Contractor shall submit method statements in advance of the Works, including (where applicable):					
B	Works in occupied areas / live school environment	1	Item			
C	Fire safety and hot works	1	Item			
D	Asbestos awareness (if applicable)	1	Item			
E	Traffic and access management	1	Item			
F	Services tie-ins and shutdown procedures	1	Item			
G	Site safety and security	1	Item			
	Working in Live Environment					
	The Contractor shall plan and execute the Works to minimise disruption to the school, including:					
H	Phasing of works	1	Item			
J	Out-of-hours or holiday working where required	1	Item			
K	Coordination of shutdowns and tie-ins with the Employer	1	Item			
	Working in Live Environment					
	The Contractor shall:					
L	Agree all shutdowns in advance with the Employer	1	Item			
M	Provide temporary services where required	1	Item			
N	Minimise downtime to existing systems	1	Item			
	e) Security					
	The Contractor shall be responsible for the security of the Works and shall:					
P	Secure all work areas to prevent unauthorised access, particularly within an occupied school environment	1	Item			
Q	Maintain the site in a safe and controlled condition at all times	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
A	Provide appropriate barriers, signage and protection to segregate works from staff, students and the public	1	Item			
B	Implement a site access and sign-in procedure for all personnel	1	Item			
C	Safeguard all materials, plant and equipment against damage or theft	1	Item			
D	Ensure safe access and egress for deliveries and coordinate with school operations	1	Item			
E	Prevent access to non-work areas and adjoining properties	1	Item			
F	The Contractor shall provide suitable barriers or enclosures appropriate to the nature of the Works.	1	Item			
G	The Contractor shall ensure all works are planned and executed to maintain the safe operation of the school at all times.	1	Item			
H	Particular care shall be taken to segregate construction activities from occupied areas.	1	Item			
	f) Provision of clearly identifiable site perimeters and surroundings.					
	The Contractor shall:					
J	Provide a designated site compound and storage area as agreed with the Employer's Representative	1	Item			
K	Keep all materials, plant and welfare facilities within this area	1	Item			
L	Maintain the compound in a safe and tidy condition	1	Item			
M	Remove all temporary facilities and reinstate areas on completion	1	Item			
	g) Provisions for protection of the public from site operations and arrangements for protection of third parties and visitors to the site in accordance with all statutory requirements.					
	The Contractor shall:					
N	Protect the public, school occupants and visitors from the Works	1	Item			
P	Provide appropriate barriers, signage and safe access arrangements	1	Item			
Q	Comply with all statutory safety requirements	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
	h) Transport for work people.					
A	The Contractor shall provide all necessary transport for personnel to and from the site.	1	Item			
	i) Protecting the works from inclement weather					
B	The Contractor shall protect the Works from adverse weather and provide any temporary coverings or protection required.	1	Item			
	j) Water for the works.					
	The Contractor shall:					
C	Provide all water required for the Works	1	Item			
D	Make all necessary temporary connections and pay associated costs	1	Item			
E	Comply with all statutory and Irish Water requirement	1	Item			
	k) Temporary lighting and power for the works.					
	The Contractor shall:					
F	Provide all temporary power and lighting required for the Works	1	Item			
	Make all necessary connections and pay associated costs					
G	Ensure all temporary installations are safe and removed on completion	1	Item			
	l) Temporary roads, hardstandings, crossing and similar items.					
	The Contractor shall:					
H	Provide safe access to and within the site as required	1	Item			
J	Maintain safe pedestrian and vehicle routes at all times	1	Item			
K	Minimise disruption to school operations and surrounding areas	1	Item			
L	Provide traffic management measures where required and agree same with the Employer	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
	Parking					
	The Contractor shall:					
A	Manage parking of site personnel within designated areas only	1	Item			
	m) Temporary accommodation for the use of the Contractor.					
	Welfare Facilities					
	The Contractor shall:					
B	Provide welfare facilities in accordance with Safety, Health and Welfare at Work (Construction) Regulations	1	Item			
C	Maintain facilities in a clean and hygienic condition for the duration of the Works	1	Item			
	n) Temporary storage areas including suitable and separate storage for dangerous materials or substances.					
	The Contractor shall:					
D	Provide suitable storage for materials and equipment	1	Item			
E	Store materials safely and protect from damage	1	Item			
	o) Temporary telephones for the use of the Contractor.					
F	The Contractor shall provide appropriate communication systems for site management and coordination of the Works.	1	Item			
	p) Traffic regulations					
	The Contractor shall:					
G	Comply with all traffic regulations	1	Item			
H	Manage deliveries and site traffic to minimise disruption	1	Item			
J	Ensure safe access at all times, particularly during school opening and closing hours	1	Item			
K	Provide supervision where required to manage interaction with students and staff	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
	q) Welfare facilities for work people to be in compliance with the fourth schedule of the Safety Health and Welfare at Work (Construction) Regulations.					
A	Provide all welfare facilities in accordance with statutory requirements.	1	Item			
	r) Safety Health and Welfare at Work provisions including items for the following:-					
	The Contractor shall:					
B	Comply with all requirements of the Safety, Health and Welfare at Work Acts and associated Construction Regulations	1	Item			
C	Provide all necessary supervision, safety personnel and procedures for the safe execution of the Works	1	Item			
D	Ensure all personnel hold valid Safe Pass and relevant certifications	1	Item			
E	Provide and maintain appropriate PPE for all personnel and visitors	1	Item			
F	Provide adequate first aid facilities and trained first aid personnel	1	Item			
G	Maintain safe access, egress and emergency procedures at all times	1	Item			
H	Provide all necessary safety signage and traffic management measures	1	Item			
	<u>Live School Environment</u>					
	The Contractor shall:					
J	Plan and execute the Works to ensure the safety of students, staff and visitors at all times	1	Item			
K	Segregate work areas from school operations	1	Item			
L	Control noise, dust and disruption	1	Item			
M	Restrict works to agreed times where required	1	Item			
N	Provide supervision where works interface with school activities	1	Item			
	<u>Overhead Services</u>					
P	Where working near existing services, the Contractor shall implement appropriate safety measures in accordance with statutory requirements.	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
	s) Disbursements arising from the employment of work people					
	The Contractor shall:					
A	Provide all labour necessary to complete the Works	1	Item			
B	Ensure all personnel are competent and suitably qualified	1	Item			
C	Comply with all employment legislation and industry requirements	1	Item			
	t) Maintenance of public and private roads					
	The Contractor shall:					
D	Maintain safe access and egress to the site at all times	1	Item			
E	Implement appropriate traffic management measures, particularly in relation to the live school environment	1	Item			
F	Schedule deliveries to avoid school peak times where required	1	Item			
G	Keep access routes and surrounding areas free from obstruction, mud and debris	1	Item			
H	Make good any damage to roads, paths or adjoining property caused by the Works	1	Item			
	u) Removing rubbish, protective casings and coverings and cleaning the works on completion					
	The Contractor shall:					
J	Keep the Works and surrounding areas clean and tidy at all times	1	Item			
K	Remove rubbish and surplus materials regularly and dispose of same in accordance with statutory requirements	1	Item			
L	Prevent dust, debris and waste from impacting the school environment	1	Item			
M	On completion, remove all plant, materials and waste and leave the site clean and in good condition	1	Item			
N	Make good any areas disturbed by the Works	1	Item			
	v) Compliance with waste management statutory requirements					
	The Contractor shall:					
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
A	Manage and dispose of all waste arising from the Works in accordance with all statutory requirements	1	Item			
B	Use appropriately licensed waste collection and disposal facilities	1	Item			
C	Provide waste transfer documentation upon request	1	Item			
D	Ensure hazardous materials (if any) are handled, transported and disposed of in accordance with applicable regulations	1	Item			
E	Keep the site and surrounding areas free from waste and debris at all times	1	Item			
F	Remove all waste from site on completion of the Works	1	Item			
G	The Contractor shall allow for the removal and disposal of all existing plant, equipment and associated materials arising from the Works.	1	Item			
	w) Drying the works					
H	The Contractor is fully responsible for drying out the works and for providing all the necessary plant or equipment to achieve this. The Contractor must included here for all costs associated with drying out the works.	1	Item			
	x) Temporary fencing, hoardings, gates, doors, screens, fans, planked footways, guardrails, gantries, floor, stair, roof edge protection, and protection of openings, safety nets and similar items					
	The Contractor shall:					
J	Provide all necessary temporary fencing, barriers and protection to safely segregate the Works from the live school environment	1	Item			
K	Prevent unauthorised access to work areas at all times	1	Item			
L	Provide temporary partitions where required to: prevent dust migration; reduce noise disturbance; maintain fire separation where required	1	Item			
M	emporary partitions shall be appropriate to the location and duration of the works	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
A	The Contractor shall provide fully weathered (fully flashed, independently drained), insulated, acoustically treated and fire rated partitions between the existing school and the new works in each location that an interface is required. These temporary partitions shall also prevent dust migrating from the construction area into the occupied school. This may require to be placed in a number of locations over the course of the construction stage and may require different versions for different phases. When weathering has been completed, the acoustic and fire related element of these partitions will still be required until substantial completion. Contractor to include herein all costs associated with this requirement and the design of these temporary works.	1	Item			
	y) Control of noise, pollution and compliance with statutory obligations					
	The Contractor shall:					
B	Carry out works in a manner that minimises disruption to the school environment	1	Item			
C	Agree working hours and any particularly noisy activities with the Employer's Representative	1	Item			
D	Provide advance notice of disruptive works where required	1	Item			
E	Implement measures to control noise and vibration	1	Item			
F	Implement dust control measures to prevent nuisance within the school and adjoining areas	1	Item			
G	Prohibit radios or unnecessary noise on site where required	1	Item			
	z) protection of the works					
	The Contractor shall:					
H	Protect all works, materials and equipment from damage, weather and theft	1	Item			
J	Protect all existing buildings, services and surrounding areas from damage arising from the Works	1	Item			
K	Make good any damage caused during the execution of the Works	1	Item			
L	Protect completed and partially completed works from damage, dirt or deterioration	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
	ADDITIONAL PRELIMINARIES					
	General Attendance on Specialist Sub-Contractors					
	The Contractor shall:					
A	Provide all necessary attendance on subcontractors	1	Item			
B	Coordinate and manage all subcontract works to ensure proper sequencing and completion of the Works	1	Item			
	Subcontractor Coordination					
	The Contractor shall:					
C	Coordinate all subcontractors to ensure efficient progress of the Works	1	Item			
D	Provide all necessary information and setting out to avoid abortive work	1	Item			
	Certificates/ Guarantees					
	The Contractor shall:					
E	Provide all required certificates, warranties and guarantees for materials and workmanship	1	Item			
F	Submit all certification required for completion and handover	1	Item			
	Modifications to Entrances					
G	The Contractor shall maintain safe access to the school at all times and provide temporary measures where required.	1	Item			
	Inspection / Notices					
H	The Contractor shall give reasonable notice for inspections where required.	1	item			
	Completion / Handover					
	The Contractor shall:					
J	Provide all as-built drawings, O&M manuals and certification required for handover	1	Item			
K	Allow access to the Employer's Representative for inspection of the Works	1	Item			
L	Make good all defects during the Defects Period	1	Item			
	Services / Statutory Undertakers					
	The Contractor shall:					
M	Coordinate with all statutory undertakers and service providers as required	1	Item			
				To Collection €		

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	4. GENERAL FACILITIES AND OBLIGATIONS (Cont)					
A	Ensure all works to existing services are carried out in accordance with relevant requirements	1	Item			
				To Collection €		

4. GENERAL FACILITIES AND OBLIGATIONS (Cont)

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4. GENERAL FACILITIES AND OBLIGATIONS
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TOTAL AMOUNT CARRIED TO GENERAL SUMMARY					
Preliminaries/1 - Preliminaries/55.					

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	(10) DEMOLITIONS AND ALTERATIONS					
	DEMOLITION & ALTERATIONS					
	GENERAL					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYER'S REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Demolitions					
	Removing					
	Fittings and Fixtures					
B	Existing External double door and frame; approx 1650mm wide x 3160mm high; include all fittings, architrives, liners etc; diposal of all material off site	1	nr			
	Removing Finishes					
C	Existing ceiling finishes to certain locations within existing building; disposal of all materials off site; prepare ceilings to receive new finishes	146	m2			
				To Collection €		

				€	c
(10) DEMOLITIONS AND ALTERATIONS (Cont)					
COLLECTION					
Page No. Lot 8.1/1					
(10) DEMOLITIONS AND ALTERATIONS **Carried to Summary**					

					€	c
	(31) EXTERNAL WALL COMPLETIONS					
	METALWORK					
	Non-Structural					
	ALUMINUM DOORS INCLUDING LOUVRE DOORS; The successful contractor will be responsible for the design, supply, fabrication, and installation of the doors all in accordance with the best building practices and systems supplier#s recommendations; The contractor will be responsible for providing all proposals, drawings, samples etc required to satisfy the requirements of the tender and also to demonstrate that the contractor is competent and able to execute the works in a proper and timely manner; The contractor will be responsible but not limited to providing the design team the following documentation in advance of any works been commenced; Providing all test data covering all the proposed systems; After the contractor has been awarded the project they must provide the design team the following prior to any work commencing; A full set of detailed shop drawings showing all the relevant interfaces, systems junctions, flashing details, glass types, and indicting all the surfaces being painted; include for inbuilt screen; as per Architect's specification					
	Composite Items; Doorsets (Louvred Doors)					
A	External double Door; overall opening size (including frame) 1650mm wide x 3160mm high; comprising 2nr louvred door size 825mm wide x 3160mm high; complete	1	nr			
				To Collection €		

				€	c
(31) EXTERNAL WALL COMPLETIONS (Cont)					
COLLECTION					
Page No. Lot 8.1/3					
(31) EXTERNAL WALL COMPLETIONS **Carried to Summary**					

					€	c
	(35) & (45) CEILING FINISHES					
	FLOOR, WALL & CEILING FINISHES					
	Suspended Ceiling					
	Proprietary suspended ceiling system; Manufacturer: Submit proposals for Architects approval; Product reference: CasoLine MF suspended ceiling system- or equivalent to Architect#s approval; Suspension system; Hanger type: Gypframe MF8 strap hangers; Top fixings: Gypframe MF12 soffit cleats fixed to concrete soffit or metal deck; Primary grid centres: 1200 mm. Hanger centres: 900 mm; Secondary grid centres: 400 mm; Linings: 1 x 12.5 mm Gyproc WallBoard, Gyproc moistureproof green board where noted on RCP's and in a wet area; Insulation: none; Access Units: Gyproc Profilex access panels; Finishing: Taped seamless finish; Primer/ Sealer; Type: 1 coat of Gyproc Drywall Primer (2 coats where noted as moistureproof green board; Accessories: none; all as per Architects Specification					
	Ceilings; fixed below floor structure					
A	Depth of suspension 500mm - 1000mm	146	m2			
	PAINTING AND DECORATING					
	Painting					
	Emulsion paint; To internal plastered surfaces and fairfaced blockwork; Manufacturer: Submit proposals for Architects approval; Product reference: Dulux trade Diamond Matt (water based tough Scrubbable Matt emulsion); Surfaces: Internal plastered surfaces; Preparation: Tape and fill joints; Initial coats: 40% thinned primer.Thinning Sealing new or bare surfaces: Add up to 1 part clean water to 10 parts paint; Number of coats: 2; Undercoats: As recommended by manufacturer; Number of coats: As recommended by manufacturer; Finishing coats: Washable matt vinyl; Number of coats: 2; all as per Architects Specification					
	Ceilings					
B	Exceeding 300mm	146	m2			

				€	c
(35) & (45) CEILING FINISHES (Cont)					
COLLECTION					
Page No. Lot 8.1/5					
(35) & (45) CEILING FINISHES **Carried to Summary**					

					€	c
	(5-) MECHANICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Enabling works associated with relocation of boilers and forming connections into the existing 80mm heating header to accommodate 1nr heat pump and 2nr exisitng boilers; including system isolation, drain-down, cutting and forming tees, provision of isolation valves, non-return valves (where required), fittings, reducers, supports, flushing, pressure testing, and full reinstatement of insulation and finishes; All shutdowns to be agreed in advance and carried out outside normal operating hours; all in accordance with the Mechanical Specification and Drawing M-5601	1	item			
C	Enabling works associated with the relocation of the existing air dirt separator and plate heat exchanger, including system isolation and drain-down, disconnection of all associated pipework, electrical and control connections, careful removal and repositioning to new locations as indicated on the drawings, modification and extension of pipework to suit revised layouts, provision of new fittings, valves, supports and brackets, reconnection of all services, and making good of all interfaces. Works to include flushing, refilling, venting, pressure testing, recommissioning, and full reinstatement of insulation and finishes; all shutdowns to be agreed in advance and undertaken outside normal operating hours; all in accordance with the Mechanical Specification and Drawing M-5601	1	Item			
D	Modification of existing gas service to accommodate installation of new gas meter (gas meter measured elsewhere), including all necessary alterations, pipework adjustments, fittings, testing, commissioning, and certification, in accordance with Engineers Specification and Drawing M-5601	1	item			
	Notes					
E	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
B	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ASBESTOS REMOVAL					
	DEMOLITION & ALTERATIONS					
	General					
C	The following items are not measured in strict accordance with ARM.		note			
D	The Contractor is refered to the Pre Refurbishment & Demolition Asbestos Survey		note			
E	The Contractor must ensure that any risk of exposure to asbestos is completely eliminated. Contractor to consult with Employer's Representative before any work commences on site.	1	item			
F	The Contractor is advised that there is a notification form to be used for any work involving asbestos. This form must be submitted 28 days prior to the start of such work.	1	item			
G	The Main Contractor / PSCS must appoint a specialist asbestos removal contractor to carry out the asbestos removal & disposal works	1	item			
H	Prior to commencing any demolition or construction works on site all asbestos must be removed from site; in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010	1	item			
J	The Main Contractor / PSCS must appoint a competent independent analyst / accredited laboratory for the purpose of undertaking air sampling, project monitoring and issuing site clearance for reoccupation certification; in conformance with ISO 17025 General Requirements for the Competence of Testing and Calibration Laboratories	1	item			
K	Prior to commencing the asbestos removal works the specialist contractor shall submit (to the PSDP & Employer's Representitive) their Plan of Work (risk assessment / method statement), Design Risk Assessment, and temporary works certificates for the Asbestos Removal works (at least 21 days in advance of commencing the asbestos removal works)	1	item			

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Prior to commencing the asbestos removal works the specialist contractor shall submit their Plan of Work (risk assessment / method statement), and notify, to the HSA (at least 14 days in advance of commencing the asbestos removal works). The PSCS must also ensure that copies of the notifications are forwarded to the PSDP, Client & Project Manager	1	item			
B	No works may take place on site until the Plan of Work has been drawn up and approved by the Main Contractor / PSCS	1	item			
C	No deviations shall be permitted from the plan of work submitted to the HSA	1	item			
D	Should the Plan of Work require amending / updating (for whatever reason) it must be issued to the PSDP & Project Manager in the first instance, and then the HSA, prior to proceeding with any proposed changes	1	item			
E	No asbestos removal works may take place in areas occupied by normal construction / project personnel and / or third parties	1	item			
F	An asbestos site clearance for reoccupation certificate(s) must be supplied (by the competent independent analyst / accredited laboratory) to the PSDP & Project Manager prior to commencing any demolition or construction works on site (other than the asbestos removal works); the certificate(s) must include (1) Visual inspection, (2) Air monitoring and (3) The decontamination unit	1	item			
G	After completing Asbestos Removal works the PSCS must ensure that asbestos site clearance for reoccupation certificates are issued to the Project Manager, PSDP, and Client PRIOR to allowing those areas to be opened up to persons (other than those persons directly involved in the asbestos removal works)	1	item			
H	NO Asbestos Containing Waste Material may be removed from the site unless a Waste Transfer Form (removal of Hazardous Waste Material from Site) has been completed and issued to the PSCS / Main Contractor, the PSDP & Project Manager	1	item			
J	The PSCS / Main Contractor must forward copies of final disposal certificates (i.e. completed Waste Transfer Form (final disposal of Hazardous Waste Material)) to the PSDP & Project Manager	1	item			
K	The PSCS / Main Contractor must forward, the following information (as applicable) to the PSDP, for inclusion in the Safety File; Bulk sample results, Amended Asbestos Register, Preliminary Safety & Health Plan and Specification, Specialist asbestos removal contractor Plan of Work, Notification to the Health and Safety Authority, Air monitoring results prior to removal works commencing, Air monitoring results during removal works, site clearance for reoccupation certificates, Completed Waste Transfer Form for the final disposal of all asbestos / hazardous waste.	1	item			
L	All asbestos works must be carried out in accordance with; The HSA 2010 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001, The Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010, The HSA Guidelines on Working with Materials Containing Asbestos Cement (and any subsequent amendments updates to HSA Guidelines and / or Codes of Practice)	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Contractor to include here (Unless included in rates elsewhere) for protection of all fixtures, fittings and finishes to all areas in which asbestos removal occurs	1	item			
	Alterations					
B	The Contractor must note that the safe and proper removal and disposal of all asbestos material is the Contractor's full responsibility and therefore the contractor's price/rates must include for all work in connection with same; no claims on the grounds of want of knowledge will be entertained whatsoever.	1	item			
	Removing Finishes; Asbestos Material					
C	Submit Plan of Work and 14 day prior notification to the Health & Safety Authority	1	item			
D	Setup Decontamination Unit & Form Enclosures	1	item			
E	Specialist removal and disposal of asbestos-containing valves in accordance with all relevant safety and environmental regulations.	1	item			
F	Environmental clean to achieve clearance certification	1	item			
G	Asbestos Removal & Disposal Certificates	1	item			
H	INAB Accredited Asbestos Clearance Certification					
J	Reassurance Air Monitoring and Re-occupation Clearance Certification by an Asbestos Consultant	1	item			
				To Collection €		

(5-) MECHANICAL INSTALLATION (Cont)

ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS

(51) HEATING CENTRE

System

Heating center installation, testing and commissioning; consisting of 1nr ASHP (Primary heating source) and 2nr exisitng LPG gas fired condensing boilers (secondary heating source) serving radiators throughout the building; the installation shall include a pressurisation unit, expansion vessel, pipework, shunt pumps and all associated valves; the existing header and on floor distribution pipework to be retained and reused; existing flow rates to be recorded prior to works and re-established at the end of the works; The heating system shall be flushed and provided with appropriate chemical treatment; Commissioning results including a flue gas analysis shall be provided for the boilers prior to handover, along with a statement by the manufacturer/supplier confirming their correct and efficient operation; all in strict accordance with the Mechanical Engineers Specification Part 1; Part 2; Part 3; Part 4 and Drawings M-5601

Accessories associated with Primary Equipment

Stop valves for isolation of LPHW pipework up to 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3

A	22mm Stop valves	2	nr		
B	50mm Stop valves	8	nr		
C	65mm Stop valves	5	nr		

Non-return valves; include for all accessories and fittings; all in strict accordance with Engineers Specification Part 3

D	22mm Non-return valves	3	nr		
E	50mm Non-return valves	4	nr		
F	65mm Non-return valves	1	nr		

Lock Shield Valve; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3

G	22mm Lock shield valve	2	nr		

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Angle Pressure Released Safety Valve; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Engineers Specification Part 3					
A	65mm safety valve	1	nr			
	Strainer valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
B	50mm Strainer Valves	1	nr			
	Auto Air Vents; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
C	22mm AAV Valve	1	nr			
	Temperature Sensors; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
D	Temperature sensor	6	nr			
	Pressure gauge; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
E	50mm Pressure gauge	2	nr			
F	65mm Pressure gauge	2	nr			
	Flexible connections; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
G	50mm Flexible connections	3	nr			
	Circulation Pump; supply and installation; complete; Description: Twin head, canned-rotor type c/w integral variable speed control & BMS connectivity; Power: 230C/1ph/50Hz; Pump Housing Material: Cast Iron; Impeller Material: Cast Iron; Maximum Operating Pressure: 10 bar; Enclosure Class: X4D; Insulation Class: F; Energy (EEI): 0.17; Compliance: Declaration of Performance / CE Certification; See Part 3: Standard Clauses; for appropriate standards; ERP Directive (2009/125/EC); EU Regulation (813/2013); Energy Labelling Framework; Regulation (EU) (2017/1369); EU Regulation (811/2013); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.5					
H	Pump LPHW, Ref: PMP01; Flow rate: 3.47 l/s; Head: 50kPa	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Pressurisation Unit; supply and installation; complete; Description: Floor Standing LPHW Pressurisation Unit, Pumps: Twin.; Breaktank Connection: #AB# air gap to water supply; Max Working Pressure: 10 Bar; Connectivity: Volt Free Contacts required for High/Low level fault output to BMS; Digital Display: Required c/w password protection; Independent High / Low Pressure Alarm: Hard-wired; Auto Fill Capacity: Required; Standards/ Conformity: ISO 9001, BSEN 60204 Part 1, WRAS approved, IMQ & VDE Standards, PED, EMC Directives; Expansion Vessel: See drawings; Max. Working Pressure of Expansion Vessels: 10 bar; Pressurisation unit to supply common fault signal to BMS, Pressurisation unit c/ w high & low pressure trip, Quick fill loop to be included as part of installation; all in strict accordance with the Mechanical Engineers Equipment Schedule 1.8					
A	Pressurisation Unit; Ref: PRU001; Location: Plant room	1	nr			
	Buffer Vessel; supply and installation complete; Description: Direct Heating Vertical Buffer Vessel; Storage Capacity: refer to drawing; Material: Mild Steel Construction with exterior paint; Max. Temperature: 99øC; Max. Working Pressure: 3 bar; Max.; Connections: See schematic; Insulation: 550mm soft polyester fibre insulation with high Thermal insulation to ErP class B or C, Fire Class: B-s2do to EN 13501; Warranty: 5 years; Accessories: Access hatch, Temperature Gauge, Pressure Gauge, Temp/Pressure, Safety Valve & tundish, Immersion Pockets 200mm deep min; Compliance: Declaration of Performance / CE Certification PED 2014/68/ EU; all in strict accordance with the Mechanical Specification Part 4, Section 1.4					
B	Buffer vessel; Ref: BUF001	1	nr			
	Chemical dosing pot; supply and installation; complete; Capacity: 11 litres; Construction: Mild steel, welded; Mounting: Wall mounted c/w wall mounting brackets; Finish: powder coated; Minimum Output: 1 kW; Connection Details: Tundish, 1# fill valved connection, 1# drain valved connection, 1# flow valved connection, 12 return valved connection, Air vent Connection Sizes 1#; Typical Height: 880 mm; Typical Diameter: 200 mm; Weight: 16.5; c/w foot valve; chemical drum; Cleansing; Corrosion inhibitor and wall mounting brackets; include for all accessories and fittings; all in strict accordance with the Mechanical Equipment Schedule 1.7					
C	Chemical dosing pot	1	nr			
	Expansion Vessel; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
D	Expansion Vessel	1	nr			
	Hydraulic Low Loss Header; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
E	Hydraulic Low Loss Header	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Boiler Flues; Flues shall be installed from each boiler as a pre-fabricated horizontal discharge balanced flue system; Description: Horizontal Balanced Flue Kit; Construction Inner: 304 grade s/steel (EN 1.4301); Construction Outer: Powder Coated Steel; Insulation Thickness: 50mm; Fire Rating: 2 hours (BS 476: Part 20); Minimum Clearance to Combustible Material: 50mm; Terminal Type: Suitable for Horizontal discharge; Support Brackets Int. Use: Powder-coated, 304 grade stainless steel; Roof terminal kit: Required; all in strict accordance with the Mechanical Engineers Specification Part 3					
A	Boiler flue; Size 100/160mm diameter	2	nr			
B	Boiler flue; Size 200mm diameter	2	nr			
C	Boiler header flue; Size 200mm diameter	1	nr			
	Description Heat meter; Media LPHW; Visible Display Digital; Pulse Output Requirements; Switch type - reed; Contacts - VFC; Pulse value # 1 kw/h per pulse; Load current - 500mA; Max switch voltage - 180 Vdc; Contact rating # 10W; Flying lead - 2m; Requirements - Class 2 Ultrasonic flow sensor - Calculator with integral hardware and software for measuring flow rate, temperature and energy consumption - Temperature sensors - Pulsed Input interface card for water sub-metering- Remote reading via M-Bus or similar interface - Power save mode - 24 month memory - Extensive diagnostic displays; Connection Type As per Part 3: Standard Clauses; Inline Strainer Required; Installation Positions Horizontal & vertical; Max Pressure 16 Bar; Media Temperature 1 oC # 90/130oC; Operating Temperature 1 oC # 90/130oC; Compliance Declaration of Performance/CE Certification, IS EN 14154, MID (Measuring Instrument Directive) 2004/22/, EC, CEN EN 1434 (2007) and OIML R5 (2002); all in strict accordance with the Mechanical drawing and Specifications documents Volume 3 - Equipment Schedules 2.4					
D	Heat Meter	2	nr			
	<u>Distribution</u>					
E	65mm diameter pipework	1	item			
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3					
F	22mm diameter pipework	1	item			
G	50mm diameter pipework	1	item			
H	65mm diameter pipework	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Heating Distribution pipework up to and including 80mm shall be Copper to IS EN 1057; include for all fixings All fittings employed on copper pipework systems shall be of the nondezincifiable quality. Soldered joints shall be in accordance with HVCA TR7 #Guidance on Soft Soldering for Pipe Jointing Copper# using lead free solder. On sizes 54 mm and below joints shall be made with capillary fittings to IS EN 1254 using lead free solder. On condense, boiler feed and boiler blow down systems an approved silver brazing alloy to IS EN 1044 shall be used. At dismantling points, unions, or flanged joints as appropriate shall be used. For connections to all appliances and on drainage pipework, joints shall be made with compression fittings to EN 1254 Part 2 or 2051 Part 1 as appropriate; all in strict accordance with the Mechanical Engineers Specification Part 4					
A	22mm diameter pipework	1	item			
B	50mm diameter pipework	1	item			
C	65mm diameter pipework	1	item			
	Insulation					
	Phenolic preformed section insulation; to LTHW services pipes; Thermal conductivity shall not exceed 0.042 Wm2K at 100oC; All insulation shall be fitted in accordance with the manufacturer#s instructions. All heating and plumbing pipework, valves and ancillary equipment within the plant room and external plant compound shall be insulated and aluminum hammer clad to provide mechanical protection; All insulation shall be Class A1, CFC and HCFC free with ozone depletion factor of zero; include for all accessories; all in accordance with the Mechanical Engineers Specification Part 4					
	Insulation, 15mm thick					
D	to 22mm diameter pipework	1	item			
	Insulation, 40mm thick					
E	to 50mm diameter pipework	1	item			
F	to 65mm diameter pipework	1	item			
	Insulated cover boxes; aluminium split casing c/w spring clip fasteners, 35mm thick insulation lining; sized to suit valve; vapour sealed; all in accordance with Engineers Specification Part 4					
G	General valves	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
H	Testing and commissioning	1	item			
J	Testing,chemical dosing, sterilization and certification of all systems	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Completion of heat meter commissioning reports	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
B	Operating and maintenance manuals	1	item			
C	Filter maintenance; allow for 3 visits to site after completion for filter cleaning	1	item			
	Working drawings; all in accordance with Engineers Specification					
D	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
E	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
F	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
G	Identification plates, labels and the like	1	item			
	(52) DRAINAGE AND REFUSE DISPOSAL					
	System					
	Soils and Waste Drainage Installation, testing and commissioning; complete; The complete installation of all above ground foul water drainage and refuse disposals; The Mechanical Contractor shall also be responsible for removal from storage and carriage to the position, erection of each item and all connections to and from the sanitaryware as detailed on the drawings and within this specification; all in strict accordance with the Mechanical Engineers Specification					
	Distribution System					
	Condensate pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work; all in strict accordance with the Mechanical Specification					
H	28mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
J	32mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
A	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
B	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
C	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
D	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
E	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
F	Identification plates, labels and the like	1	item			
	(54) GAS DISTRIBUTION - LPG GAS SERVICES					
	System					
	LPG Gas distribution; installation testing and commissioning; The school building will be fed from a new incoming LPG gas supply; The contractor shall allow for liaising with the gas supplier regarding coordination of works and certification of the site gas pipework and tank installation; LPG installation shall be installed in compliance with IS3213; all in strict accordance with the Mechanical Specification Part 1, Part 2, Part 3 and Part 4					
	Accessories associated with Primary Equipment					
	Isolation Valves; isolation of gas services pipework; include for all accessories; all in strict accordance with the Mechanical Specification Part 3					
G	40mm Stop valves	4	nr			

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Gas Meter; Low pressure drop turbine gas meter; Gas meter to have volt free contacts for connection to the BMS; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
A	Gas Meter	2	nr			
	Distribution System					
	Galvanised Medium Grade Mild steel pipework and fittings; include for all fixings and supports, elbows,expansion bellows; unions and tees necessary to complete works; Painted with two coats of yellow ochre paint; pipework run in ceiling voids; all in strict accordance with the Mechanical Specification Part 3					
B	40mm diameter pipework	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(58) FIRE PROTECTION INSTALLATION					
	System					
	Fire Fighting installation, testing and commissioning; complete; Hand held fire extinguishers and fire blankets shall be provided throughout the building as detailed on the drawings; The installation will comply with BS 5306-2000-Part 8; The Contractor shall be responsible for carrying out the commissioning of the portable fire extinguishers before they are installed; all in strict accordance with the Mechanical Specification					
	Terminal equipment and Fittings					
	Fire Extinguishers supply and installation; complete with 5 years guarantee, CE approved and marked; all in accordance with the Mechanical Specification					
A	5KG CO2 Gas Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
B	5kg ABC Dry Powder Fire Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	MECHANICAL INSTALLATIONS					
	Sundries & Builders Work					
	General Attendances					
A	Provide all general attendances in accordance with Arm 4 .	1	item			
B	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
C	Provide use of the Main Contractors scaffolding.	1	item			
D	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
E	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
F	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
G	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Mechanical services works, including testing and commissioning , and pay all ongoing operation charges.	1	item			
H	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
J	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
K	Provide temporary telephone services to the Mechanical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
L	Include for unloading, hoisting/cranage and placing into position all items of heavy plant and site offices supplied by the sub-contractors.	1	item			
M	Allow for maintaining all ducts, chases, trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
N	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
P	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
Q	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
R	Provide all special attendances in accordance with Arm 4 Clause 3.1	1	item			

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Provide temporary roads and hardstandings in connection with heavy items of plant and the like.	1	item			
B	Provide accommodation for the sub-contractor's staff for eating, site lavatories, site washing facilities, and cloaks.	1	item			
C	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
D	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
E	Provide temporary distribution systems for lighting, power, water for the execution of the electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
F	Provide the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
G	Protection of the works the Main Contractor is responsible for providing adequate protection at all times for the Mechanical services installation.	1	item			
H	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day.	1	item			
J	Provide external access to high level on building facade to permit the installation of any external equipment/fittings and for the removal of existing services as required.	1	item			
K	Provide Mobile Elevated Working Platforms (MEWP) or scaffolding for Mechanical sub-contractors working at high level.	1	item			
L	Provide for weathering & sleeving around all penetrations through the external structure of the building and to allow for sealing to fabric to maintain air tightness.	1	item			
M	Allow for maintaining all ducts, chases, trenches, trunking etc, clean and free of all water, debris and rodents at all times.	1	item			
N	Allow for making good and fire sealing of all builders work opes with proprietary sealant to architects details, where services penetrate fire zones.	1	item			
P	Allow for coordination with local authorities and utility providers in respect of application for connections, providing excavation of roads and full coordination with various utility companies.	1	item			
Q	Coordinate with Mechanical Contractor to facilitate fitting of all sanitary ware.	1	item			
R	Allow for patrices behind ceiling tiles and ceilings for the support of light fittings, grilles, smoke detectors, sensors etc.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Allow for weathering details on all services passing through external envelope.	1	item			
B	Allow for all service / utility entries into building.	1	item			
C	Allow for clearing away and disposal of any rubbish.	1	item			
D	Provide safe access to roofspace to facilitate Mechanical installation work.	1	item			
E	Making good of opes for fire smoke dampers.	1	item			
F	Provide and maintain the specific temperatures and humidity levels.	1	item			
G	Contractor to provide for the construction of a walkway within the Attic space for service and maintenance of water and ventilation services.	1	item			
H	Contractor to ensure all existing services shut downs for connecting in new and changeovers shall be carried out between 10pm on a Sunday Night and 6pm on a Monday morning, to avoid any interruptions of the running of the existing school; times to be agreed with school management.	1	item			
J	Provide plywood protective cover over boiler for protection.	1	item			
	Unload, hoist distribute, and place in position the following items of plant and equipment:					
K	Gas boiler	1	item			
L	Heat pumps	1	item			
M	Pumps	1	item			
	Sundries & Builders Work					
	General					
N	Marking positions of holes, mortices and chases	1	item			
P	Testing & Commissioning	1	item			
Q	Preparing drawings of "as completed" installations	1	item			
R	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
S	Keys, tools and spares	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	In-situ concrete; plain; to IS EN 206; Grade C30; formwork to sides of platform, powerfloating finish; all in strict accordance with the Engineers Drawings and Specification					
	Bases					
A	Size 850mm x 1650mm x 100mm thick	1	nr			
B	Size 1850mm x 1100mm x 100mm thick	1	nr			
C	Size 2650mm x 1850mm x 100mm thick	1	nr			
	Equipment supports; provide mounting grounds for the installation of the following fittings; making good structure and finishes; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
	Equipment supports					
D	Provide wall fixings for portable fire extinguishers to walls at 1500mm above floor	2	nr			
	Forming or cutting holes; including sleeves/plates, making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
E	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
F	cutting or forming opes is deemed to include the making good and sealing of the ope around the pipe or duct		note			
	For ducts/pipes through exisitng external cavity blockwork wall, include for building in sleeves; weather proofing, making good all finishes on completion					
G	Size 1000mm x 250mm opes	1	nr			
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification and Drawings					
	Special works were services pass through structures; external walls, making good all finishes on completion					
H	Size 1000mm x 250mm opes	1	nr			
				To Collection €		

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.1/7					
Page No. Lot 8.1/8					
Page No. Lot 8.1/9					
Page No. Lot 8.1/10					
Page No. Lot 8.1/11					
Page No. Lot 8.1/12					
Page No. Lot 8.1/13					
Page No. Lot 8.1/14					
Page No. Lot 8.1/15					
Page No. Lot 8.1/16					
Page No. Lot 8.1/17					
Page No. Lot 8.1/18					
Page No. Lot 8.1/19					
Page No. Lot 8.1/20					
Page No. Lot 8.1/21					
Page No. Lot 8.1/22					
Page No. Lot 8.1/23					
(5-) MECHANICAL INSTALLATION **Carried to Summary**					

					€	c
	(6-) ELECTRICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Existing ESB Meter; safe isolation, disconnection, decommissioning and removal of the existing ESB meter installation associated with the school#s main switchboard; Trace and identify the incoming ESB supply cable from the intake point to the main switchboard; Works shall include full coordination with ESB Networks and compliance with all statutory requirements; making good all disturbed finishes; all in strict accordance with Electrical Specification and Drawing E-6000	1	item			
C	Alterations to existing switch board MDB-1 to facilitate the installation of new 150A TP&N sub-mains connection (sub-main cable & TP&N device measured elsewhere); allow for safe isolation and disconnection of existing sub-mains and disposal off site; modify existing DB as required to accommodate the new connection; Include all isolation, shutdown coordination, and commissioning; all in strict accordance with Electrical Specification and Drawing E-6000	1	item			
	Notes					
D	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
E	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
F	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			

(6-) ELECTRICAL INSTALLATION (Cont)

ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES

(61) ELECTRICITY SUPPLY & MAIN DISTRIBUTION - LV INSTALLATIONS

System

LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000

A	LV Installations	1	item			

Equipment

Main Switch Distribution Board; supply and installation; complete; Enclosure Type: Form 4B Type 2; Material Body: Electro galvanised iron-phospated steel plate; Frame: 2.5mm thick steelwork, Doors/covers: 2mm steelwork, Finish: epoxy self etching filler primer undercoat, 2nr stove enameled synthetic paint finishing coats; Colour: Light grey, RAL 7035, powder lacquered; Cable Entry: bottom; Cable Exit: Top; IP Rating: IP54; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; HOA switches, Integral isolating switches, CTU's, open/closed contractors; remote key switches, phase indicator lamps, time clocks, metering, surge protection, space for future power factor correction equipment and automatic changeover; earth terminal; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in accordance with the Electrical Project Particular Specifications and Drawing E-6000

B	Distribution board; Ref: MDB-2; Location: Book store	1	nr			

Fittings

C	Isolation device; supply and installation; complete; terminating of incoming and outcoming cabling; all in accordance with the Electrical Specifications					
D	Isolation device; 150A TPN	2	nr			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	2	nr			
	Rubber Mat; supply and installation; complete; The contractor shall supply and install a suitable slim rubber mat for each LV switchboard complying with BS 91 - 1976 adjacent each switchboard. The mat shall be 1 metre wide and shall run the complete length of the main switchboard and shall be fixed securely to avoid potential trip hazards; all in accordance with the Electrical Specifications					
B	Insulated matting; Ref: MDB-1, Existing	1	nr			
C	Insulated matting; Ref: MDB-2	1	nr			
	Main switchboard circuit chart; 'A1' framed drawing of the switchboard to be installed within the switch room; the drawing shall be framed with a perspex cover; include for all accessories; in strict accordance with the Electrical Specification					
D	Main switchboard; Ref: MDB-1	1	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
E	Circuit charts to switch boards; Ref: MDB-2	1	nr			
	Health Safety & Shocks Chart; the contractor shall provide an 'Electrical Review' First Aid Chart, 508 mm x 381 mm, wall chart of Instructions for Dealing with Electric Shock, located alongside each LV switchboard, These shall be printed in red and black, sheathed in plastic; all in accordance with the Electrical Specifications					
F	Health Safety & Shocks Chart	1	nr			
	<u>Mains and Sub-mains cables</u>					
	Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
G	Submains Ref: 5; REN-01 to MSB-1; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
H	Submains Ref: 5; REN-01 to MSB-2; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 5; MSB-02 to ASHP 01; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
B	General earthing and bonding	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

(6-) ELECTRICAL INSTALLATION (Cont)

(62) POWER - CONTAINMENT

System

Cable ladder/ tray/ trunking installation, testing and commissioning; complete; The Contractor must allow for the supply and installation of a complete cable support system using cable tray, trunking, conduit and support steelwork as shown on the drawings and as detailed in the specification. The Contractor shall include for all incidental cable containment which may not be shown on the drawings but which may be required to effect cable routes to individual items of equipment, luminaires etc; include for all joints, fixing brackets and supports; all exposed and extraneous conductive parts are to be boned and properly earthed in accordance with current wiring regulations; all in accordance with the Electrical Engineers Specification and Drawings E-6001

A	Cable Tray; Submains; heavy duty galvanised steel; size 200mm wide x 60mm high; complete	1	item		
B	Cable Basket; CAT 6A cable; heavy duty galvanised steel; size 300mm x 65mm wide; complete	1	item		
C	Conduit; galvanised steel; size 25mm diameter; complete	1	item		
D	Conduit; galvanised steel; size 50mm diameter; complete	1	item		
E	Conduit; flexible steel; size 25mm diameter; complete	1	item		

General Earthing and Bonding

General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification

F	General earthing and bonding	1	item		

General

Testing and commissioning; all in accordance with Engineers Specification

G	Testing and commissioning; complete	1	item		

Operating and maintenance manuals; all in accordance with Engineers Specification

H	Operating and maintenance manuals; complete	1	item		

Working drawings; all in accordance with Engineers Specification

J	Working drawings; complete	1	item		

Co-ordination drawings; all in accordance with Engineers Specification

K	Co-ordination drawings; complete	1	item		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like; complete	1	item			
	(62) POWER - GENERAL SERVICES					
	System					
	General Services and small power installation, testing and commissioning; complete; to include vampire load design strategy; all in accordance with the Electrical Specification and Drawings ME-5801					
C	General Services Installation	1	item			
	Accessories associated with terminal equipment					
	Isolation device; supply and installation (including wiring); complete; surface mounting; include for all accessories and fixings; c/w galvanised steel back boxes; include for all accessories and fixings; all in strict accordance with the Electrical Specification					
D	16amp SPN Isolator	9	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
H	Working drawings	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with Engineers Specification					
A	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
B	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
C	Identification plates, labels and the like	1	item			
	(65) PROTECTIVE SERVICES - EARTHING AND BONDING					
	System					
	Earthing and Bonding; installation; testing and commissioning; The Electrical Contractor shall supply, install, test and commission a complete earthing and bonding system in accordance with the Electricity Supply Company requirements, current best practice, I.S. 10101, this Specification and Drawings. The Electrical Contractor shall form an equipotential zone in the building to provide protection against indirect contact, by bonding all extraneous and exposed conductive parts to the main earth terminal; all in accordance with the Electrical Engineers Specification and drawing E-6001					
D	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
E	Main Earth Terminal Bar	1	nr			
	Main earth conductor cable; supply and installation complete; 95mm2 LSF green/ yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
F	Earth terminal bar to earth pits	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Main earth conductor cable; supply and installation complete; Cable 95mm2 LSF green/yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
A	From MSB-2 to earth terminal bar	1	item			
	Main equipotential earth bonding; Cable: 95mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
B	Incoming Water Main	1	item			
C	Incoming Gas Main	1	item			
D	Metal drainage pipes	1	item			
E	Structural Steelwork	1	item			
F	Main Heating Pipework	1	item			
G	Main Ventilation Ductwork	1	item			
H	Lightning Protection System	1	item			
J	Lift shaft steel work	1	item			
K	Eircom DP	1	item			
	Main equipotential earth bonding; Cable: 16mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
L	Earth terminal bar to Comms cabinets	1	item			
	Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations; all in accordance with the Electrical Engineers Specification					
M	Metallic Wireways and Containment	1	item			
N	Suspended Ceiling Grids	1	item			
P	Wash Hand Basins	1	item			
Q	Showers	1	item			
R	Sinks	1	item			
S	WC's	1	item			
T	Cleaners Sinks	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Catering equipment	1	item			
B	Metal worktops	1	item			
C	Plant room Pipework	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
D	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	(65) SECURITY & PROTECTION - SURGE PROTECTION					
	System					
	Transient & Over voltage Protection installation, testing and commissioning; TSurge Protection Devices (SPDs) shall be installed in switchboards and distribution boards as described below to suppress over voltages and transients due to network disturbances and or lightning strikes. Class 1 & 2 SPDs shall be fitted to each main switchboard at supply the intake point. Class 2 SPDs shall be fitted downstream at each local distribution board. These units shall be rail mounted within a dedicated compartment of the switchboard or distribution board. SPDs shall comply with IEC/EN 61643 11:2012 guidelines; all in accordance with the Electrical Engineers Specification and Drawing E-6000					
A	Transitent & Overvoltage Protection	1	item			
	Fittings					
	Surge Suppression Devices; installation (including wiring); complete; all in strict accordance with the Electrical Engineers Specification					
B	Surge Protection Type 1; MDB-2	1	item			
C	Surge Protection Type 1; REN-1	1	item			
D	Surge Protection Type 3; MDB-1 submains	1	item			
E	Surge Protection Type 3; MDB-2 submains	1	item			
F	Surge Protection Type 3; ASHP01 submains	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
G	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
H	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
J	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
K	Working drawings	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with Engineers Specification					
A	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
B	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
C	Identification plates, labels and the like	1	item			
	(68) BMS WIRING INSTALLATIONS					
	System					
	BMS Wiring Installation; testing and commissioning; complete; Electrical Contractor must provide and issue as installed drawings for all electrical cabling associated with mechanical services. All wiring for mechanical services must be carried out under this contract to include wiring for heating, ventilation etc. The wiring to all mechanical devices must be taken from dedicated MCC (motor control center) panels supplied as a 'Free Issue' item by the Mechanical Contractor as part of the BMS installation, and must be installed and connected up by the electrical contractor. Generally, the MCC panels must be installed in boiler houses, plant rooms, etc.; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
D	BMS Wiring Installation	1	item			
	Fittings					
	BMS final connections and wiring installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV / control wiring cables fed from the BMS panel (Location: exisitng school plant room) to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Electrical Engineers Specifications and Drawing ME-5801					
E	Point 009; LPHW (P1) - New primary	1	nr			
F	Point 010; Enable/ Fault	1	nr			
G	Point 011; LPHW (P2) - School Hall	1	nr			
H	Point 012; Enable/ Fault	1	nr			
J	Point 013; LPHW (P3) - Junior School	1	nr			
K	Point 014; Enable/ Fault	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 015; LPHW (P4) - Senior School	1	nr			
B	Point 016; Enable/ Fault	1	nr			
C	Point 017; Heat meter supply - Boiler	1	nr			
D	Point 018; Heat meter pulsed signal	1	nr			
E	Point 019; Heat meter supply - Heat Pump	1	nr			
F	Point 020; Heat meter pulsed signal	1	nr			
G	Point 023; ASHP primary flow immersion temp sensor	1	nr			
H	Point 024; ASHP primary return immersion temp sensor	1	nr			
J	Point 025; ASHP flow high limit stat	1	nr			
K	Point 026; Boiler primary flow immersion temp sensor	1	nr			
L	Point 027; Boiler primary return immersion temp sensor	1	nr			
M	Point 028; Boiler flow high limit stat	1	nr			
N	Point 036; LPHW buffer vessel temp sensor	1	nr			
P	Point 037; LPHW buffer outlet flow temp sensor	1	nr			
Q	Point 038; LPHW buffer outlet return temp sensor	1	nr			
R	Point 039; Mains water incoming meter (pulsed signal)	1	nr			
S	Point 040; Natural gas meter boiler supply (pulsed signal)	1	nr			
T	Point 041; Run on timer - circuit 1	1	nr			
U	Point 042; Run on timer - circuit 2	1	nr			
V	Point 043; Run on timer - circuit 3	1	nr			
W	Point 044; Modbus interface to ASHP	1	nr			
X	Point 045; Electrical switchboard meters (MODBUS)	1	nr			
Y	Point 046; Future - power & control cable to temp stats	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Final Circuits (including all points terminations)					
	Final Circuits; installation, testing and commissioning; Complete; Final circuits shall be fed from local sub-distribution board; Installation: Sub-circuit wiring 4c 2.5mm2 LSZH & 2.5 CPC; shall be drawn in concealed galvanized steel conduit and/or galvanized steel trunking; all in accordance with the Electrical Engineers Specification and Control points schedule					
	Final Circuits - Existing BMS Panel					
A	Power - LPHW (P1) - New primary	1	nr			
B	Power - LPHW (P2) - School Hall	1	nr			
C	Power - LPHW (P3) - Junior School	1	nr			
D	Power - LPHW (P4) - Senior School	1	nr			
E	Power - Heat meter supply - Boiler	1	nr			
F	Power - Heat meter supply - Heat Pump	1	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
G	General Earthing and Bonding; complete		item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers Specification Documents					
H	Testing and commissioning; complete		item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers Specification Documents					
J	Operating and maintenance manuals; complete		item			
	Working drawings; all in accordance with the Electrical Engineers Specification Documents					
K	Working drawings; complete		item			
	Co-ordination drawings; all in accordance with the Electrical Engineers Specification Documents					
L	Co-ordination drawings;complete		item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with the Electrical Engineers Specification Documents					
A	As built drawings; complete		item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers Specification Documents					
B	Identification plates, labels and the like; complete		item			
	ELECTRICAL INSTALLATIONS					
	Sundries and Builders Work					
	General Attendances					
C	Provide all general attendances in accordance with Arm 4.	1	item			
D	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
E	Provide use of the Main Contractors scaffolding.	1	item			
F	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
G	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
H	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
J	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
K	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
L	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
M	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
N	Include for unloading, hoisting/cranage and placing into position all items of heavy plant supplied by the subcontractors.	1	item			
P	Allow for maintaining all ducts, chases , trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
B	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
C	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
D	Provide all special attendances in accordance with Arm 4 Work Section B Clause 3.1	1	item			
E	Provide temporary access roads and hardstanding in connection with heavy items of plant and the like, forming part of the site establishment works	1	item			
F	Provide scaffolding internal and external to the building to facilitate installation of high-level electrical services during the contract	1	item			
G	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
H	Provide adequate barriers/tape/signage of exclusion zoning in relation to use of access equipment and ACOPs for working at height	1	item			
J	Provide construction signage (internal and external) in relation to M&E services e.g live systems etc.	1	item			
K	Provide temporary lighting and power in accordance with IS10101 Wiring Regulations.	1	item			
L	Provide protection to all M&E services installations installed during the works including protection against debris and water ingress	1	item			
M	Provide fire stopping to all electrical services on the vertical and horizontal planes throughout the entire buildings	1	item			
N	Ensure close coordination during the building phase to ensure electrical, ventilation and mechanical services are installed and integrated within the building fabric as designed.	1	item			
P	Provide grounds and fixings for suspension of Electrical services; Electrical loading = 10kg/m Mechanical loading = 40kg/m	1	item			
Q	Provide boxing out of containment and pipework as necessary, boxing to be accessible with screwed access.	1	item			
R	Main contractor shall employ a full time M&E Co-ordinator for the duration of the contract works and their duties shall include but not limited to details set out within the specification A2.4 Part 1 of 4 particular specification document	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Contractor shall be aware that drawings are indicative only including the minimum ope sizes; It will be the contractors responsibility in conjunction with their in-house M&E services coordinator to produce construction stage builders works drawings for DT comment	1	item			
B	Provide safe access and task lighting for electrical sub-contractor to all sections of school roofspace	1	item			
C	Provide safe access for electrical sub-contractor to all sections of the site	1	item			
D	The M&E installation within the SEN accommodation is to be a fully recessed installation. The contractor shall include for casting in of all electrical services and recessing of all radiators within the wall panels	1	item			
E	Seal all incoming services to prevent ingress of vermin	1	item			
F	Fire Stopping to all services penetrations throughout	1	item			
G	Attendance to electrical sub-contractor	1	item			
H	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
J	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
K	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
L	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
M	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
N	Provide temporary power supplies (3 phase 400V and maximum loading 15kVA) for welding, handtools, and for commissioning, including infrastructure and all charges fot the contractors use of the facility.	1	item			
P	Provide scaffolding additional to the main contractors standing scaffolding, or access towers if required.	1	item			
Q	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day	1	item			
R	Provide facilities for safe removal and disposal of all materials off site	1	item			
S	Provide a week by week program detailing the Mechanical and Electrical service activities	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide for heating / drying out the building as and when necessary to comply with their program. This may be done (at the clients specific consent) with the installed conventional heating system (if available). Be responsible, however, for providing the fuel to do this. Be responsible for maintaining background heat until the building is handed over to the client, after the heating system has been commissioned	1	item			
B	Provide and maintain the specific temperatures and humidity levels	1	item			
C	Provide Builders Attendances to all utility services as follows; Gas Networks Ireland, Eir, Virgin Media, Local Authority, ESB Networks.	1	item			
D	Fire stopping requirements of all services penetrations through fire compartment structures to be the responsibility of the building contractor. In addition, all pipework, ductwork, containment and service penetrations shall be fire-stopped where passing through every wall, floor and ceiling regardless if its a fire compartment or not by main contractor. Refer to M&E services drawings indicating main routes of M&E infrastructure. All instances of firestopping shall be labelled and certified using CE certified products including fire-pillows for use inside electrical trunkings.	1	item			
	Unload, hoist, distribute and place in position the following items of heavy plant and equipment					
E	Main switch board	1	item			
F	Sub-distribution boards	1	item			
G	MCC panel	1	item			
H	Containment	1	item			
J	Cabling	1	item			
K	Lighting	1	item			
	Sundries & Builders Work					
	General					
L	Marking positions of holes, mortices and chases	1	item			
M	Testing & Commissioning	1	item			
N	Preparing drawings of "as completed" installations	1	item			
P	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
Q	Keys, tools and spares	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Forming or cutting holes/mortices/chases and the like; including sleeves/plates, intumescent collars; making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
A	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
B	cutting or forming opes is deemed to include the making good and sealing of the ope		note			
	Cutting or forming holes through existing external walls various thicknesses; include for building in sleeves; making good all finishes on completion					
C	200mm x 150mm opes	1	nr			
D	600mm x 150mm opes	2	nr			
	Cutting or forming holes through existing internal walls various thicknesses; include for building in sleeves; making good all finishes on completion					
E	200mm x 150mm opes	4	nr			
F	600mm x 150mm opes	1	nr			
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification P12					
	Special works were services pass through structures; existing external walls various thicknesses, making good all finishes on completion					
G	200mm x 150mm opes	1	nr			
H	600mm x 150mm opes	2	nr			
	Special works were services pass through structures; existing internal walls various thicknesses, making good all finishes on completion					
J	200mm x 150mm opes		nr			
K	600mm x 150mm opes		nr			
				To Collection €		

				€	c
(6-) ELECTRICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.1/25					
Page No. Lot 8.1/26					
Page No. Lot 8.1/27					
Page No. Lot 8.1/28					
Page No. Lot 8.1/29					
Page No. Lot 8.1/30					
Page No. Lot 8.1/31					
Page No. Lot 8.1/32					
Page No. Lot 8.1/33					
Page No. Lot 8.1/34					
Page No. Lot 8.1/35					
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Page No. Lot 8.1/37					
Page No. Lot 8.1/38					
Page No. Lot 8.1/39					
Page No. Lot 8.1/40					
Page No. Lot 8.1/41					
Page No. Lot 8.1/42					
(6-) ELECTRICAL INSTALLATION **Carried to Summary**					

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND					
	EXCAVATION AND EARTHWORK					
	Excavation					
	Excavation					
	Reduce levels					
A	Depth between not exceeding 2.00m	28	m3			
	Extra on Excavation Items for:					
	Breaking up existing					
B	Hard surfaces; Tarmacadam surface; 100mm thick; complete	40	m2			
	Disposal					
	Water					
C	Surface	1	item			
D	Ground	1	item			
	Excavated material; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
E	Disposal off site	24	m3			
F	Disposal off site; existing Tarmac; Disposal to a suitable licensed waste disposal facility	4	m3			
	Filling with hardcore to be obtained off-site; clean angular gravel 20mm, free from pyrite and macarsite as per specification					
	To make up levels					
G	Average thickness not exceeding 250mm	4	m3			
	Filling with hardcore to be obtained off-site; Clause 804 crushed stone well compacted on firm clean formation; compliant with TII Publications series 800, free from pyrite and macarsite as per specification					
	To make up levels					
H	Average thickness not exceeding 250mm	4	m3			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Filling with granular fill material to be obtained off-site; Class 6F2 compliant with TII Publications series 600, free from pyrite and macarsite; depositing in 150mm layers maximum thickness; compacting; as per Drawings and Specification					
	To make up levels					
A	Average thickness exceeding 250mm	12	m3			
	Surface treatments					
	Levelling and compacting; bottom of excavations					
B	Horizontal	40	m2			
	CONCRETE WORK					
	In-situ Concrete					
	Concrete cubes for testing					
	Provide for making concrete cubes from freshly mixed concrete; transporting and testing cubes; all as per details in the Specification					
C	Size 150 x 150 x 150mm	2	nr			
	In-situ Concrete; Reinforced					
	Grade C40/5-XF4 to IS EN 206					
	Beds					
D	Generally; Reinforced	8	m3			
	Surface Finishes					
	Brushed finish to wet concrete as per Specifications					
E	Generally	40	m2			
	Reinforcement					
	Fabric					
	A252 mesh reinforcement; 350mm laps; 350mm end laps; all in strict accordance with the Engineers Drawings and Specification					
F	Horizontal	40	m2			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Formwork					
	Formwork Generally					
	Sides of beds					
A	Height or width 250 - 500mm	26	m			
B	Extra over for forming recess in floor slab for district heating pipe; comprising 65mm dia x 400mm deep recess; include for cutting to all angles and corners	4	nr			
	SURFACE PAVINGS, FENCING AND LANDSCAPING					
	Fencing					
	Reflective Acoustic Post and Panel Fencing; Birkdale DuraPost or equivalent, comprising of commercial DuraPosts constructed from cold rolled pre-galvanised (DX51D Z275NA-C) steel, manufactured to EN 10346. Treated Redwood Acoustic Timber Boards constructed from 70% PEFC Certified 200mm x 47mm slow-grown redwood boards. The rebated capping is constructed from 85mm x 35mm twice weathered 70% PEFC Certified slow-grown redwood. EPDM Rubber Seal 10mm thick x 50mm wide Cellular Adhesive EPDM Sponge Strip. A general purpose sponge rubber with excellent resistance. Static Load Testing; 1447kg / 14.2kN. Acoustic Rating; 28dB Reduction. ass/M2 (Timber Boards) 23.7kg/M2. 350 x 350 x 600mm Grade C30/37 concrete bases set 100mm below ground level; all as per Specification and Drawing					
	Acoustic Paladin Fencing System					
C	2400mm high above ground level	26	m			
	Extra over for					
D	Angle posts; 60x60x2 SHS posts, 2400mm high above ground level and 900mm below ground level; set in 450x450x600mm deep concrete grade C28/35 base	4	nr			
	Gates					
E	Single gate; opening size approx 1000 x 2400mm high	1	nr			
	100x100x10 SHS hot dipped galvanised SHS powder coated post; gate posts set in 1000x1000x1000mm C28/35 concrete pocket; top of concrete 300mm below ground level; galvanised to Specification and polyester powder coating to Specification in selected colour, colour to be chosen by the Architect from samples provided on site by the Contractor; complete					
	Gate Posts					
F	100 x 100 SHS posts; 2400mm high above ground level and 900mm below ground level; min 600mm embedment in concrete	2	nr			

To Collection €

				€	c
(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
COLLECTION					
Page No. Lot 8.1/44					
Page No. Lot 8.1/45					
Page No. Lot 8.1/46					
(30) SITE ENCLOSURES - PLANT COMPOUND **Carried to Summary**					

					€	c
	(50) SITE SERVICES - DISTRICT HEATING					
	DRAINAGE/SERVICES - DISTRICT HEATING					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr duct not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported compacted stone fill; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations; as per Engineer's Drawing					
C	Average depth 500 - 1000mm	22	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
D	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	5	m			
E	Excavating existing grass and making good to match existing after excavation and drainage runs have been laid	17	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	3	nr			
G	Foul pipe; crossing excavations	2	nr			
H	ESB; crossing excavations	2	nr			
				To Collection €		

					€	c
	(50) SITE SERVICES - DISTRICT HEATING (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Sand bed and surround; to Engineer's Specification					
	Beds and Surrounds					
C	525 x 250mm; to 2nr 125mm duct	22	m			
	PVC marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	22	m			
	Ductwork					
	125mm diameter					
E	Laid in trenches	43	m			
F	Extra over for easy sweep bends	4	nr			
	MECHANICAL INSTALLATIONS					
	Generally					
	General; complete; refer to M&E Drawings, M&E Mechanical Engineering General Specification					
	General					
G	Testing and commissioning; all in accordance with Engineers specification documents and drawings	1	Item			
H	Operating and maintenance manuals; all in accordance with Engineers specification documents and drawings	1	Item			
J	Working drawings; all in accordance with Engineerss specification documents and drawings	1	Item			
K	Co- ordination drawings; all in accordance with Engineers specification documents and drawings	1	Item			
L	As built drawings; all in accordance with Engineers specification documents and drawings	1	Item			
M	Identification plates, labels and the like; all in accordance with Engineers specification documents and drawings	1	Item			
				To Collection €		

					€	c
	(50) SITE SERVICES - DISTRICT HEATING (Cont)					
A	Builderswork; forming and cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels etc. and amking good, all in accordance with Engineers specification documents and drawings	1	Item			
B	Fire stopping and other associated fire protection works; all in accordance with Engineers specification documents and drawings	1	Item			
				To Collection €		

				€	c
(50) SITE SERVICES - DISTRICT HEATING (Cont)					
COLLECTION					
Page No. Lot 8.1/48					
Page No. Lot 8.1/49					
Page No. Lot 8.1/50					
(50) SITE SERVICES - DISTRICT HEATING **Carried to Summary**					

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by Semple McKillop Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
				To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS					
(50) SITE SERVICES (MAINLY MECHANICAL) - HEAT PUMPS					
System					
External Air source Heat Pump installation, testing and commissioning; complete with all associated plant, pipework, valves, controls, insulation, frost protection, fully integrated with the building heating system; The heating system shall be flushed and provided with appropriate chemical treatment; The contractor shall provide, prior to handover, a commissioning certificate to confirm that correct treatment has been carried out; all in strict accordance with the Mechanical Engineers Specification Volume 1; Volume 2; Volume 3; Volume 4 and Drawings M-5601					
Primary Equipment					
Air Source Heat Pump; The Contractor shall supply, install, test and commission packaged high efficiency, low noise, electric Air Source Heat Pump; complete; Heating Capacity (kW): 20kW; CoP (W/W): 2.7; SCoP (W/W): 3; Efficiency (%): 117; Compressor Type: Scroll or Scew; Minimum Number of Compressors: 2; Source Heat Exchanger: Cu/Al pipes and fins with hydrophilic coating #Blue Fins#; User Heat Exchanger: Braze Welded Plate, Heat Exchanger (AISI 316 Stainless Steel) c/w closed cell insulation and discharge temp sensor for anti-freeze protection; Refrigerant Type: R290; Outdoor Air Temp (øC): -3.0; Outdoor Relative Humidity (%): 80; Fluid Type: Water; In/Out Fluid Temp (øC): 50.0 / 55.0; Super Low Noise: Required; Max Fan RPM: 900 (low noise); Construction: Galvanised Sheet Steel painted with polyurenate powder enamel c/w removable panels; Control & rotection Devices: Required; Control Panel: Microprocessor based c/w display showing all operational icons and connections for MODBUS protocols; Serial Interface Card RS485: Required to allow the controller to communicate using Modbus Protocol; Head Pressure Control: This device, using a pressure probe installed on the source heat exchanger, controls the fan speed with respect to the ambient conditions; Accessories: Rubber Antivibration feet/pad, Condensate Drip Tray, Anti Freeze Kit, Pressure Gauges, Master / Slave Cascade Control system, Outdoor Air Temperature Sensor for Weather Compensation, Hydraulic Kit comprising centrifugal circulating pump c/w safety valve & fill/drain point; Defrost: Method Reverse Cycle; Defrost Control: Sensor for outdoor temperature; Warranty: 5 year parts and labour; include for all accessories; all in strict accordance with the Mechanical Engineers Equipment Schedule no. 1.1					
			To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
Warranty Requirements: The Tenderer shall ensure that all heat pump equipment supplied and installed under this contract is covered by a minimum warranty period of five (5) years post date of substantial completion.The warranty must ensure cover of:#Compressor, refrigerant circuit, heat exchangers, controls, and all major components#Labour, parts, diagnostics, and call outs for warranty repairs#No exclusions applied since operating due to typical operating profiles defined in this documentWarranty validity shall be dependent upon:#Correct system design and installation#Proper commissioning by competent personnel#Operation within the design parameters described below#Compliance with the maintenance regime set out in this section#Internet connection for continuous diagnostics (applicable to certain manufacturers)Where longer manufacturer warranties or reduced frequency service requirements are available at no additional cost, or at a cost saving, the Tenderer must include these within the tender. Service & Maintenance Requirements: The Tenderer shall allow for the minimum maintenance regime for the installed heat pump system in the tender pricing in order to maintain the 5-year warranty. Service Frequency# One service visit preferably every two (2) years, unless the equipment manufacturer explicitly requires a shorter interval (minimum one (1) year).(Tenderers shall only price for annual servicing if supported by documented manufacturer requirements.)#It is in the Tenderer#s interest to negotiate with heat pump manufacturers for longer service intervals in order to price their bid competitively."Minimum Service Scope (Biennial Visit): Each service visit must include at minimum:# Inspection and performance review of the refrigerant circuit# Verification of electrical connections and controls# Checks on hydraulic conditions (flow rates, pressures, pump performance)# Cleaning of filters, strainers, and debris screens# Cleaning of coil and fins. # Verification of correct operation, setpoints, and system sequencing# Review of system logs and operational history to confirm stable operationMaintenance must be carried out by competent personnel and appropriately recorded.Tenderers, must include all maintenance requirements to maintain the heat pump warranty for the 5 year period post substantial completion, in their tender pricing. Normal Design & Operating Parameters:For warranty purposes, #normal design conditions# refer to operation within the system#s intended thermal and hydraulic envelope, including:Project Specific OperationFor the installations considered in this project:# Systems are designed for ~55øC flow temperatures to maximise efficiency and minimise equipment stress, with the ability to operate at higher temperatures during peak demand within heat pump limits.# Backup boilers (gas/oil) will support peak loads and extreme conditions# The buildings have predictable, daytime based occupancy profiles and low annual running hours due to being schools# Heat pumps will operate predominantly during controlled and stable load conditionsThese factors result in:# Predictable and stable thermal loads# Reduced mechanical and thermal cycling# Lower probability of component stress or degradation# Improved reliability and long term warranty compliance					
			To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Tender Note # Commercial & Technical Expectations:Tenderers must base their submission on the following assumptions:# The systems are conservatively designed and operate comfortably within their capabilities# There is no reliance on electric backup# Operating conditions are stable due to predictable school occupancy profiles# A minimum 5 year warranty must be provided# Only the biennial service visit (once every two years) shall be priced into the tender unless the manufacturer requires otherwise# Tenderers are strongly encouraged to secure extended service intervals from their suppliers to improve lifecycle cost efficiency					
A	Air source heat pump Ref: ASHP-01; Location: External plant compound	1	nr			
	Accessories associated with Primary Equipment					
	Isolation valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
B	65mm Stop valves	3	nr			
	Non-return valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
C	65mm Non-return valves	1	nr			
	Strainer valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
D	65mm STR Valves	1	nr			
	Non-close valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
E	65mm Non-close valve	1	nr			
	Auto-air vent valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
F	65mm Auto-air vent valve	1	nr			
	Drain cock valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
G	65mm Drain cock valve	2	nr			
	Test point valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
H	65mm Test point valves	2	nr			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Commissioning sets; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
A	65mm Commissioning set	1	nr			
	Temperature Sensor; linked to BMS; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
B	65mm Temperature Sensor	2	nr			
	Pressure Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
C	65mm Pressure Gauge	2	nr			
	Temperature Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
D	65mm Temperature Gauge	2	nr			
	Flexible connections; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
E	65mm Flexible connections	2	nr			
	Anti-frost valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Volume 2					
F	65mm Anti-frost valve	1	nr			
	Distribution					
	Pre-insulated, self-compensating, flexible heating pipework and fittings; Miniumum heat loss of 0.216W/m; Insulation: closed cell PUR foam wrapped in corrugated HD PEXa; Operating temp: 95øC; tested to 6 bar; include for all accessories; all in strict accordance with the Mechanical Engineers Specification and Drawings M-5601					
G	65mm diameter pipework	1	item			
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3, Section 1					
H	65mm diameter pipework	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Insulation					
	Foiled faced fibreglass insulation; to all new pipework services; class A1, CFC and HCFC free with ozone depletion factor of zero; Thermal conductivity not exceeding 0.04W/m2K at 100øC; all joints taped and sealed; all in strict accordance with the Mechanical Engineers Specification Part 1, Section 4.2					
	Insulation, 40mm thick					
A	to 65mm diameter pipework	1	item			
	Valve jackets provided with Velcro fixings shall be provided on all valves, flanges, pumps and heat exchangers within the plant rooms and externally. All valve jackets used on external pipework shall be weather proof; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
B	General Valve & Plant	1	item			
	Aluminium Cladding; 18mm gauge aluminium, fixed with self-tapping screws; all in strict accordance with the Mechanical Engineers Specification					
C	to 65mm diameter pipework	1	item			
D	General Valve & Plant	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
F	Testing,chemical dosing, sterilization and certification of all systems	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
H	Heat pump servicing; One service visit preferably every two (2) years, or in accordance with manufacturers requirements in order to maintain 5 year warranty.	1	item			
	Working drawings; all in accordance with Engineers Specification					
J	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
K	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
L	As built drawings	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Identification plates, labels and the like; all in accordance with Engineers Specification					
A	Identification plates, labels and the like	1	item			
	(50) SITE SERVICES - TRACE HEATING					
	System					
	Trace Heating installation, testing and commissioning; complete; Trace heating shall be installed on all the water systems where they travel externally between building blocks; Trace heating shall be provided complete with control panels and all required components to prevent system freezing. Capacity of trace heating shall maintain water temperature above 3øC when ambient temperature is -15øC. Trace heating temperature control shall prevent water temperature rising above 10øC. Trace heating system to incorporate air control thermostats and pipework safety cut out thermostats. All trace heating circuits shall be linked to BMS to provide status and fault indication on BMS; Supply electric trace heating complete with fixing tape, shrink sleeves, crimps, junction boxes and controls; all in strict accordance with the Mechanical Engineers Specification and Drawings					
	Primary Equipment					
	Trace heating control panel; all in strict accordance with the Electrical Engineers Specification					
B	Trace heating panel Location: Plant room	1	nr			
	Accessories associated with Primary Equipment					
	Self-regulating heating tape; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
C	Self-regulating heating tape	1	item			
	Air control thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
D	Air control thermostats	1	item			
	Safety cut out thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
E	Safety cut out thermostats	1	item			

To Collection €

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Insulation					
	Modified polyolefin electrical insulation; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
A	65mm diameter pipework	1	item			
B	Valves and Plant; generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.1/52					
Page No. Lot 8.1/53					
Page No. Lot 8.1/54					
Page No. Lot 8.1/55					
Page No. Lot 8.1/56					
Page No. Lot 8.1/57					
Page No. Lot 8.1/58					
Page No. Lot 8.1/59					
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	22	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	5	m			
F	Excavating existing grass and making good to match existing after excavation and drainage runs have been laid	17	m			
	Around existing services crossing excavations					
G	Storm pipe; crossing excavations	3	nr			
H	Foul pipe; crossing excavations	2	nr			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
A	ESB; crossing excavations	2	nr			
	Disposal					
B	Ground water	1	item			
C	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
D	595 x 325mm; to 2nr ducts	22	m			
	PVC Red marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 100mm above pipework	22	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
F	Continuous strip; laid during trench backfill; 300mm above pipework	22	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
G	Laid in trenches	43	m			
H	Extra over for easy sweep bends	4	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
J	Average depth not exceeding 1000mm	2	nr			
	Sundries					
K	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
A	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			
B	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
C	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
D	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
E	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
COLLECTION					
Page No. Lot 8.1/61					
Page No. Lot 8.1/62					
Page No. Lot 8.1/63					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	12	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	12	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	3	nr			
G	Foul pipe; crossing excavations	2	nr			
H	ESB; crossing excavations	2	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
C	595 x 325mm; to 2nr ducts	12	m			
	PVC Red marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	12	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 300mm above pipework	12	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
F	Laid in trenches	24	m			
G	Extra over for easy sweep bends	2	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
H	Average depth not exceeding 1000mm	1	nr			
	Sundries					
J	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			
K	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
A	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
B	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
C	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
D	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
COLLECTION					
Page No. Lot 8.1/65					
Page No. Lot 8.1/66					
Page No. Lot 8.1/67					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES					
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE LV INSTALLATIONS					
	System					
	LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-6001					
D	Site LV Installation	1	item			
	Equipment					
	Metering Switch Board; supply and installation; complete; Enclosure Type: Renely or equivalent; Cable Entry: bottom; Cable Exit: Top; complete with and including 1nr 400amp TP ABC Isolator, earth bond, ESB sealed metering cubicle, metering enclouser (to facilitate future upgarde CT metering), 2nr 400amp TP MCCB, shunt trip; surge protection; 800amp bush bars braced for 50kA AT 1s; 2nr 125amp TP MCCB, 1nr 250amp TP MCCB; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in strict accordance with the Electrical Engineers Specification Part 1, include for all accessories; all in accordance with the Electrical Specifications					
E	Metering Switch Board; Ref: REN-1; Location: External	1	nr			

(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)

Fittings

Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications

A	Multi-function digital meter	2	nr		

Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification

B	Circuit charts to switch boards; Ref: REN-1	1	nr		

Mains and Sub-mains cables

Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000

C	Submains Ref: 5; REN-01 to MSB-1; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item		
D	Submains Ref: 5; REN-01 to MSB-2; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item		

General Earthing and Bonding

General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification

E	Generally	1	item		

General

Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings

F	Testing and commissioning; complete	1	item		

Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings

G	Operating and maintenance manuals; complete	1	nr		

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
A	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
B	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
C	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
D	Identification plates, labels and the like; complete	1	item			
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER TO HEAT PUMPS					
	System					
	Power to Heat pumps installation, testing and commissioning; complete; The electrical contractor shall provide all wiring and power supplies associated with the external heat pumps as detailed on the wiring schematic; all underground electrical services cables shall be distributed within ducts; separate underground service ducts shall be provided as part of the builders works element; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-6001					
E	Heat Pump Power Installation	1	item			
	Accessories associated with terminal equipment					
	Isolator Switch; supply and installation (including wiring); complete; c/w back boxes; all in accordance with the electrical specification					
F	Rotary Isolator; TP; 125amp; external	1	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 5; MSB-02 to ASHP01; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
B	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
C	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
D	Operating and maintenance manuals; complete	1	nr			
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
E	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
F	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
G	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
H	Identification plates, labels and the like; complete	1	item			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE EARTHING & BONDING					
	System					
	Earthing and Bonding installation; testing and commissioning; The contractor shall undertake to effectively earth the whole of the electrical installation in accordance with the NSAI I.S. 10101: 2020+A1:2024 Regulations; Main equipotential earth bonding should be provided from each of the following items, as a minimum, to the main earthing bar: Incoming Water Main, Incoming Gas Main, Metal drainage pipes, Structural Steelwork, Main Heating Pipework, Main Ventilation Ductwork, Lightning Protection System, Comms Rooms, Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations: Metallic Wireways and Containment, Suspended Ceiling Grids, Wash Hand Basins, Showers, Sinks, WC's, Cleaners Sinks, Catering equipment, Metal worktops, Plantroom Pipework (e.g. across pumps, valves, vessels, etc.); all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
B	Main Earth Terminal Bar	1	nr			
	Earthing points c/w inspection box; earth electrodes in accordance with I.S 10101:2020; complete; all in strict accordance with the Electrical Engineers Specification					
C	Earthing Points	4	nr			
	Cables					
	Earth conductor cable; supply and installation complete; Cable size 95mm2 LSF earth; mechanically protected throughtout; all in accordance with the Electrical Engineers Specification					
D	Earth terminal bar to earth pits	1	item			
E	Switchboard to earth pits	1	item			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
A	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
B	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
C	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
D	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
E	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
F	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
G	Identification plates, labels and the like	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.1/69					
Page No. Lot 8.1/70					
Page No. Lot 8.1/71					
Page No. Lot 8.1/72					
Page No. Lot 8.1/73					
Page No. Lot 8.1/74					
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS Carried to Summary					

				€	c
SUMMARY	**Page No.**				
(10) DEMOLITIONS AND ALTERATIONS	Lot 8.1/2				
(31) EXTERNAL WALL COMPLETIONS	Lot 8.1/4				
(35) & (45) CEILING FINISHES	Lot 8.1/6				
(5-) MECHANICAL INSTALLATION	Lot 8.1/24				
(6-) ELECTRICAL INSTALLATION	Lot 8.1/43				
(30) SITE ENCLOSURES - PLANT COMPOUND	Lot 8.1/47				
(50) SITE SERVICES - DISTRICT HEATING	Lot 8.1/51				
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS	Lot 8.1/60				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP	Lot 8.1/64				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER	Lot 8.1/68				
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS	Lot 8.1/75				
Total amount carried to general summary					
Lot 8.1/1 - Lot 8.1/75.					

8.2 - Our Lady of Mercy NS

					€	c
	(10) DEMOLITIONS AND ALTERATIONS					
	DEMOLITION & ALTERATIONS					
	GENERAL					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYER'S REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Demolitions					
	Removing					
	Fittings and Fixtures					
B	Existing External single door and frame; approx 1000mm wide x 3160mm high; include all fittings, architrives, liners etc; diposal of all material off site	1	nr			
	Removing Finishes					
C	Existing ceiling finishes to certain locations within existing building; disposal of all materials off site; prepare ceilings to receive new finishes	40	m2			

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(10) DEMOLITIONS AND ALTERATIONS (Cont)					
COLLECTION					
Page No. Lot 8.2/1					
(10) DEMOLITIONS AND ALTERATIONS **Carried to Summary**					

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	(31) EXTERNAL WALL COMPLETIONS					
	METALWORK					
	Non-Structural					
	ALUMINUM DOORS INCLUDING LOUVRE DOORS; The successful contractor will be responsible for the design, supply, fabrication, and installation of the doors all in accordance with the best building practices and systems supplier#s recommendations; The contractor will be responsible for providing all proposals, drawings, samples etc required to satisfy the requirements of the tender and also to demonstrate that the contractor is competent and able to execute the works in a proper and timely manner; The contractor will be responsible but not limited to providing the design team the following documentation in advance of any works been commenced; Providing all test data covering all the proposed systems; After the contractor has been awarded the project they must provide the design team the following prior to any work commencing; A full set of detailed shop drawings showing all the relevant interfaces, systems junctions, flashing details, glass types, and indicting all the surfaces being painted; include for inbuilt screen; as per Architect's specification					
	Composite Items; Doorsets (Louvred Doors)					
A	External Single Door; overall opening size (including frame) 1000mm wide x 3160mm high; comprising 1nr louvred door size 1000mm wide x 3160mm high; complete	1	nr			
				To Collection €		

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(31) EXTERNAL WALL COMPLETIONS (Cont)					
COLLECTION					
Page No. Lot 8.2/3					
(31) EXTERNAL WALL COMPLETIONS **Carried to Summary**					

					€	c
	(35) & (45) CEILING FINISHES					
	FLOOR, WALL & CEILING FINISHES					
	Suspended Ceiling					
	Proprietary suspended ceiling system; Manufacturer: Submit proposals for Architects approval; Product reference: CasoLine MF suspended ceiling system- or equivalent to Architect#s approval; Suspension system; Hanger type: Gypframe MF8 strap hangers; Top fixings: Gypframe MF12 soffit cleats fixed to concrete soffit or metal deck; Primary grid centres: 1200 mm. Hanger centres: 900 mm; Secondary grid centres: 400 mm; Linings: 1 x 12.5 mm Gyproc WallBoard, Gyproc moistureproof green board where noted on RCP's and in a wet area; Insulation: none; Access Units: Gyproc Profilex access panels; Finishing: Taped seamless finish; Primer/ Sealer; Type: 1 coat of Gyproc Drywall Primer (2 coats where noted as moistureproof green board; Accessories: none; all as per Architects Specification					
	Ceilings; fixed below floor structure					
A	Depth of suspension 500mm - 1000mm	40	m2			
	PAINTING AND DECORATING					
	Painting					
	Emulsion paint; To internal plastered surfaces and fairfaced blockwork; Manufacturer: Submit proposals for Architects approval; Product reference: Dulux trade Diamond Matt (water based tough Scrubbable Matt emulsion); Surfaces: Internal plastered surfaces; Preparation: Tape and fill joints; Initial coats: 40% thinned primer.Thinning Sealing new or bare surfaces: Add up to 1 part clean water to 10 parts paint; Number of coats: 2; Undercoats: As recommended by manufacturer; Number of coats: As recommended by manufacturer; Finishing coats: Washable matt vinyl; Number of coats: 2; all as per Architects Specification					
	Ceilings					
B	Exceeding 300mm	40	m2			

				€	c
(35) & (45) CEILING FINISHES (Cont)					
COLLECTION					
Page No. Lot 8.2/5					
(35) & (45) CEILING FINISHES **Carried to Summary**					

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	(5-) MECHANICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
	Modifications to existing single pipe heating circuit to accommodate new works (measured elsewhere); including isolation, draining down, cutting into existing pipework, formation of connections, provision of fittings, valves, and supports as required, testing, making good, and full reinstatement of insulation and finishes; all in accordance with the Mechanical Specification and Drawing M-5601					
	Modifications to existing natural gas supply within plantroom to new boilers (measured elsewhere); including isolation, draining down, cutting into existing pipework, formation of connections, provision of fittings including new slam shut valve, meter and gas detection system (measured elsewhere), valves, and supports as required, testing, making good, and full reinstatement of insulation and finishes; all in accordance with the Mechanical Specification and Drawing M-5601					
	Notes					
B	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
C	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
D	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	ASBESTOS REMOVAL					
	DEMOLITION & ALTERATIONS					
	General					
A	The following items are not measured in strict accordance with ARM.		note			
B	The Contractor is refered to the Pre Refurbishment & Demolition Asbestos Survey		note			
C	The Contractor must ensure that any risk of exposure to asbestos is completely eliminated. Contractor to consult with Employer's Representative before any work commences on site.	1	item			
D	The Contractor is advised that there is a notification form to be used for any work involving asbestos. This form must be submitted 28 days prior to the start of such work.	1	item			
E	The Main Contractor / PSCS must appoint a specialist asbestos removal contractor to carry out the asbestos removal & disposal works	1	item			
F	Prior to commencing any demolition or construction works on site all asbestos must be removed from site; in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010	1	item			
G	The Main Contractor / PSCS must appoint a competent independent analyst / accredited laboratory for the purpose of undertaking air sampling, project monitoring and issuing site clearance for reoccupation certification; in conformance with ISO 17025 General Requirements for the Competence of Testing and Calibration Laboratories	1	item			
H	Prior to commencing the asbestos removal works the specialist contractor shall submit (to the PSDP & Employer's Representitive) their Plan of Work (risk assessment / method statement), Design Risk Assessment, and temporary works certificates for the Asbestos Removal works (at least 21 days in advance of commencing the asbestos removal works)	1	item			
J	Prior to commencing the asbestos removal works the specialist contractor shall submit their Plan of Work (risk assessment / method statement), and notify, to the HSA (at least 14 days in advance of commencing the asbestos removal works). The PSCS must also ensure that copies of the notifications are forwarded to the PSDP, Client & Project Manager	1	item			
K	No works may take place on site until the Plan of Work has been drawn up and approved by the Main Contractor / PSCS	1	item			
L	No deviations shall be permitted from the plan of work submitted to the HSA	1	item			
M	Should the Plan of Work require amending / updating (for whatever reason) it must be issued to the PSDP & Project Manager in the first instance, and then the HSA, prior to proceeding with any proposed changes	1	item			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
A	No asbestos removal works may take place in areas occupied by normal construction / project personnel and / or third parties	1	item			
B	An asbestos site clearance for reoccupation certificate(s) must be supplied (by the competent independent analyst / accredited laboratory) to the PSDP & Project Manager prior to commencing any demolition or construction works on site (other than the asbestos removal works); the certificate(s) must include (1) Visual inspection, (2) Air monitoring and (3) The decontamination unit	1	item			
C	After completing Asbestos Removal works the PSCS must ensure that asbestos site clearance for reoccupation certificates are issued to the Project Manager, PSDP, and Client PRIOR to allowing those areas to be opened up to persons (other than those persons directly involved in the asbestos removal works)	1	item			
D	NO Asbestos Containing Waste Material may be removed from the site unless a Waste Transfer Form (removal of Hazardous Waste Material from Site) has been completed and issued to the PSCS / Main Contractor, the PSDP & Project Manager	1	item			
E	The PSCS / Main Contractor must forward copies of final disposal certificates (i.e. completed Waste Transfer Form (final disposal of Hazardous Waste Material)) to the PSDP & Project Manager	1	item			
F	The PSCS / Main Contractor must forward, the following information (as applicable) to the PSDP, for inclusion in the Safety File; Bulk sample results, Amended Asbestos Register, Preliminary Safety & Health Plan and Specification, Specialist asbestos removal contractor Plan of Work, Notification to the Health and Safety Authority, Air monitoring results prior to removal works commencing, Air monitoring results during removal works, site clearance for reoccupation certificates, Completed Waste Transfer Form for the final disposal of all asbestos / hazardous waste.	1	item			
G	All asbestos works must be carried out in accordance with; The HSA 2010 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001, The Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010, The HSA Guidelines on Working with Materials Containing Asbestos Cement (and any subsequent amendments updates to HSA Guidelines and / or Codes of Practice)	1	item			
H	Contractor to include here (Unless included in rates elsewhere) for protection of all fixtures, fittings and finishes to all areas in which asbestos removal occurs	1	item			
	Alterations					
J	The Contractor must note that the safe and proper removal and disposal of all asbestos material is the Contractor's full responsibility and therefore the contractor's price/rates must include for all work in connection with same; no claims on the grounds of want of knowledge will be entertained whatsoever.	1	item			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Removing Finishes; Asbestos Material					
A	Submit Plan of Work and 14 day prior notification to the Health & Safety Authority	1	item			
B	Setup Decontamination Unit & Form Enclosures	1	item			
C	Specialist removal and disposal of asbestos - containing valves in accordance with all relevant safety and environmental regulations.	1	item			
D	Specialist removal and disposal of asbestos - asbestos in control valve gaskets from basement noiler room 2 - chrysotile in accordance with all relevant safety and environmental regulations.	1	item			
E	Environmental clean to achieve clearance certification	1	item			
F	Asbestos Removal & Disposal Certificates	1	item			
G	INAB Accredited Asbestos Clearance Certification					
H	Reassurance Air Monitoring and Re-occupation Clearance Certification by an Asbestos Consultant	1	item			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS					
	(51) HEATING CENTRE					
	System					
	Heating center installation, testing and commissioning; consisting of 2nr ASHP (Primary heating source) and 3nr LPG gas fired condensing boilers (secondary heating source) serving radiators throughout the building; the installation shall include a pressurisation unit, expansion vessel, pipework, shunt pumps and all associated valves; the existing header and on floor distribution pipework to be retained and reused; existing flow rates to be recorded prior to works and re-established at the end of the works; The heating system shall be flushed and provided with appropriate chemical treatment; Commissioning results including a flue gas analysis shall be provided for the boilers prior to handover, along with a statement by the manufacturer/supplier confirming their correct and efficient operation; all in strict accordance with the Mechanical Engineers Specification Part 1; Part 2; Part 3; Part 4 and Drawings M-5601					
	Accessories associated with Primary Equipment					
	Stop valves for isolation of LPHW pipework up to 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3					
A	22mm Stop valves	2	nr			
B	50mm Stop valves	4	nr			
C	65mm Stop valves	11	nr			
	Stop valves for isolation of LPHW pipework over 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3					
D	100mm Stop valves	5	nr			
	Non-return valves; include for all accessories and fittings; all in strict accordance with Engineers Specification Part 3					
E	22mm Non-return valves	3	nr			
F	65mm Non-return valves	3	nr			
G	100mm Non-return valves	2	nr			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Lock Shield Valve; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
A	22mm Lock shield valve	2	nr			
	Auto Air Vents; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
B	22mm AAV Valve	1	nr			
	Strainer valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
C	65mm Strainer Valves	1	nr			
D	100mm Strainer Valves	1	nr			
	Commissioning Sets; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
E	100mm Commissioning Set	1	nr			
	Drain Cock Valve; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
F	100mm Drain Cock Valve	2	nr			
	Temperature Sensors; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
G	Temperature sensor	8	nr			
	Temperature gauge; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
H	50mm Pressure gauge	2	nr			
J	65mm Pressure gauge	4	nr			
	Pressure gauge; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
K	65mm Pressure gauge	4	nr			
L	100mm Pressure gauge	2	nr			
	Flexible connections; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
M	65mm Flexible connections	3	nr			
N	100mm Flexible connections	3	nr			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Gas Fired Boiler; The Contractor shall supply, install test and commission a fully packaged cascading wall mounted modulating LPG gas fired boiler plant in each schools Heating Plant room as an assist to the electric Air Source Heat Pump primary plant; Description: Wall hung modulating boilers; Fuel: LPG; LPHW Flow & Return Operating Temps: 50/30oC; Output Duty: 122kW; Gas Consumption: 11.9m3/hr; Dimensions (W x H x D): 690 x 595 x 1050mm; Water content: 127kg; Accessories: Integral class #A# modulating pump T 20, Weather compensated controller c/w north facing temp stat, LPG Conversion Kit, 3 bar safety valve, Connection module and VFC required for connection to the BEMS for Enable/Fault; all in strict accordance with the Mechanical Engineers Equipment Schedule					
A	Gas Fired Boiler; Ref: BLR 01	1	nr			
B	Gas Fired Boiler; Ref: BLR 02	1	nr			
C	Gas Fired Boiler; Ref: BLR 03	1	nr			
	Air Separator; supply and installation; complete; Description: Deaerator, Application: LPHW Heating System; Connection Size: DN 100; Construction: Mild steel, welded; Mounting: Inline; Finish: Powder coated; Max. flow velocity: 1.5 m/s; Pressure drop at Max. Flow: 4.2 kPa; Auto Air Vent: Integral; Stainer Screen: Stainless Steel; Magnets: Neodymium Magnets; Typical Height: 1500 mm; Typical Length: 650 mm; Compliance: Declaration of Performance / CE Certification / Confirmation of CPR Exemption PED 2014/68/EU; all in strict accordance with the Mechanical Engineers Equipment Schedule					
D	Air Separator; Ref: ASP-01	1	nr			
	Dirt Separator; supply and installation; complete; The Contractor shall supply and install air/dirt separators on the primary flow & return heating pipework from the ASHP; Description: Deaerator, Application: LPHW Heating System; Connection Size: DN 100; Construction: Mild steel, welded; Mounting: Inline; Finish: Powder coated; Max. flow velocity: 1.5 m/s; Pressure drop at Max. Flow: 4.2 kPa; Auto Air Vent: Integral; Stainer Screen: Stainless Steel; Magnets: Neodymium Magnets; Typical Height: 1500 mm; Typical Length: 650 mm; Compliance: Declaration of Performance / CE Certification / Confirmation of CPR Exemption PED 2014/68/EU; all in strict accordance with the Mechanical Engineers Equipment Schedule					
E	Dirt Separator; Ref: MSD-01	1	nr			
	Circulation Pump; supply and installation; complete; Description: Twin head, canned-rotor type c/w integral variable speed control & BMS connectivity; Power: 230C/1ph/50Hz; Pump Housing Material: Cast Iron; Impeller Material: Cast Iron; Maximum Operating Pressure: 10 bar; Enclosure Class: X4D; Insulation Class: F; Energy (EEI): 0.17; Compliance: Declaration of Performance / CE Certification; See Part 3: Standard Clauses; for appropriate standards; ERP Directive (2009/125/EC); EU Regulation (813/2013); Energy Labelling Framework; Regulation (EU) (2017/1369); EU Regulation (811/2013); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.5					
F	Pump LPHW, Ref: PMP01; Flow rate: 25.0 kg/s; Head: 55kPa	1	nr			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
A	Pump LPHW, Ref: PMP02; Flow rate: 25.0 kg/s; Head: 120kPa	1	nr			
	Pressurisation Unit; supply and installation; complete; Description: Floor Standing LPHW Pressurisation Unit, Pumps: Twin.; Breaktank Connection: #AB# air gap to water supply; Max Working Pressure: 10 Bar; Connectivity: Volt Free Contacts required for High/Low level fault output to BMS; Digital Display: Required c/w password protection; Independent High / Low Pressure Alarm: Hard-wired; Auto Fill Capacity: Required; Standards/ Conformity: ISO 9001, BSEN 60204 Part 1, WRAS approved, IMQ & VDE Standards, PED, EMC Directives; Expansion Vessel: See drawings; Max. Working Pressure of Expansion Vessels: 10 bar; Pressurisation unit to supply common fault signal to BMS, Pressurisation unit c/ w high & low pressure trip, Quick fill loop to be included as part of installation; all in strict accordance with the Mechanical Engineers Equipment Schedule 1.8					
B	Pressurisation Unit; Ref: PRU001; Location: Plant room	1	nr			
	Buffer Vessel; supply and installation complete; Description: Direct Heating Vertical Buffer Vessel; Storage Capacity: 600 litres; Material: Mild Steel Construction with exterior paint; Max. Temperature: 99øC; Max. Working Pressure: 3 bar; Size: 1895mm (H) x 750mm (dia); Max.; Connections: See schematic; Insulation: 550mm soft polyester fibre insulation with high Thermal insulation to ErP class B or C, Fire Class: B-s2do to EN 13501; Warranty: 5 years; Accessories: Access hatch, Temperature Gauge, Pressure Gauge, Temp/Pressure, Safety Valve & tundish, Immersion Pockets 200mm deep min; Compliance: Declaration of Performance / CE Certification PED 2014/68/EU; all in strict accordance with the Mechanical Specification Part 4, Section 1.4					
C	Buffer vessel; Ref: BUF001	1	nr			
	Chemical dosing pot; supply and installation; complete; Capacity: 11 litres; Construction: Mild steel, welded; Mounting: Wall mounted c/w wall mounting brackets; Finish: powder coated; Minimum Output: 1 kW; Connection Details: Tundish, 1# fill valved connection, 1# drain valved connection, 1# flow valved connection, 12 return valved connection, Air vent Connection Sizes 1#; Typical Height: 880 mm; Typical Diameter: 200 mm; Weight: 16.5; c/w foot valve; chemical drum; Cleansing; Corrosion inhibitor and wall mounting brackets; include for all accessories and fittings; all in strict accordance with the Mechanical Equipment Schedule 1.7					
D	Chemical dosing pot	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	LPHW Plate Heat Exchanger; Description: Counter Flow LPHW to LPHW Plate Heater Exchanger with IG Painted Frame; Flow Plates: Stainless Steel Single pass solution Corrugated #herringbone# pattern AISI 316L (EN 1.4404) / 0.4mm; Heat Load: 426kW; Hot Side Inlet Temp Varies; Hot Side Outlet Temp Varies; Cold Side Inlet Temp Varies; Cold Side Outlet Temp Varies; Frame Carbon Steel with clamping bolts around frame edge; Design Pressure of Frame 10 bar; Hot Side Connections Carbon Steel rubber lined studded ports; Cold Side Connections Carbon Steel rubber lined studded ports; Gaskets NBR / Glue Free Plug In; Dimensions Varies; Construction Standard EN13455, ASME SecVIII, Div.1; Additional Equipment ? Bespoke Insulating Jacket ? Assembling Spanner ? Foundation Feet ? Instrument Flange ? Thermometer & Manometer ? Name Plate to indicate test and operating pressure; all in strict accordance with the Mechanical Equipment Schedule 1.11					
A	Plate Heat Exchanger	1	nr			
	Expansion Vessel; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
B	Expansion Vessel	1	nr			
	Hydraulic Low Loss Header; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
C	Hydraulic Low Loss Header	1	nr			
	Boiler Flues; Flues shall be installed from each boiler as a pre-fabricated horizontal discharge balanced flue system; Description: Horizontal Balanced Flue Kit; Construction Inner: 304 grade s/steel (EN 1.4301); Construction Outer: Powder Coated Steel; Insulation Thickness: 50mm; Fire Rating: 2 hours (BS 476: Part 20); Minimum Clearance to Combustible Material: 50mm; Terminal Type: Suitable for Horizontal discharge; Support Brackets Int. Use: Powder-coated, 304 grade stainless steel; Roof terminal kit: Required; all in strict accordance with the Mechanical Engineers Specification Part 3					
D	Boiler flue; Size 100/160mm diameter	3	nr			
E	Boiler flue; Size 200mm diameter	1	nr			
F	Boiler header flue; Size 200mm diameter	1	nr			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Description Heat meter; Media LPHW; Visible Display Digital; Pulse Output Requirements; Switch type - reed; Contacts - VFC; Pulse value # 1 kw/h per pulse; Load current - 500mA; Max switch voltage - 180 Vdc; Contact rating # 10W; Flying lead - 2m; Requirements - Class 2 Ultrasonic flow sensor - Calculator with integral hardware and software for measuring flow rate, temperature and energy consumption - Temperature sensors - Pulsed Input interface card for water sub-metering- Remote reading via M-Bus or similar interface - Power save mode - 24 month memory - Extensive diagnostic displays; Connection Type As per Part 3: Standard Clauses; Inline Strainer Required; Installation Positions Horizontal & vertical; Max Pressure 16 Bar; Media Temperature 1 oC # 90/130oC; Operating Temperature 1 oC # 90/130oC; Compliance Declaration of Performance/CE Certification, IS EN 14154, MID (Measuring Instrument Directive) 2004/22/, EC, CEN EN 1434 (2007) and OIML R5 (2002); all in strict accordance with the Mechanical drawing and Specifications documents Volume 3 - Equipment Schedules 2.4					
A	Heat Meter	2	nr			
	Distribution					
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3					
B	22mm diameter pipework	1	item			
C	50mm diameter pipework	1	item			
D	65mm diameter pipework	1	item			
E	100mm diameter pipework	1	item			
	Heating Distribution pipework up to and including 80mm shall be Copper to IS EN 1057; include for all fixings All fittings employed on copper pipework systems shall be of the nondezincifiable quality. Soldered joints shall be in accordance with HVCA TR7 #Guidance on Soft Soldering for Pipe Jointing Copper# using lead free solder. On sizes 54 mm and below joints shall be made with capillary fittings to IS EN 1254 using lead free solder. On condense, boiler feed and boiler blow down systems an approved silver brazing alloy to IS EN 1044 shall be used. At dismantling points, unions, or flanged joints as appropriate shall be used. For connections to all appliances and on drainage pipework, joints shall be made with compression fittings to EN 1254 Part 2 or 2051 Part 1 as appropriate; all in strict accordance with the Mechanical Engineers Specification Part 4					
F	22mm diameter pipework	1	item			
G	50mm diameter pipework	1	item			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
A	65mm diameter pipework	1	item			
B	100mm diameter pipework	1	item			
	Insulation					
	Phenolic preformed section insulation; to LTHW services pipes; Thermal conductivity shall not exceed 0.042 Wm2K at 100oC; All insulation shall be fitted in accordance with the manufacturer#s instructions. All heating and plumbing pipework, valves and ancillary equipment within the plant room and external plant compound shall be insulated and aluminum hammer clad to provide mechanical protection; All insulation shall be Class A1, CFC and HCFC free with ozone depletion factor of zero; include for all accessories; all in accordance with the Mechanical Engineers Specification Part 4					
	Insulation, 15mm thick					
C	to 22mm diameter pipework	1	item			
	Insulation, 40mm thick					
D	to 50mm diameter pipework	1	item			
E	to 65mm diameter pipework	1	item			
F	to 100mm diameter pipework	1	item			
	Insulated cover boxes; aluminium split casing c/w spring clip fasteners, 35mm thick insulation lining; sized to suit valve; vapour sealed; all in accordance with Engineers Specification Part 4					
G	General valves	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
H	Testing and commissioning	1	item			
J	Testing,chemical dosing, sterilization and certification of all systems	1	item			
K	Completion of heat meter commissioning reports	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
L	Operating and maintenance manuals	1	item			
M	Filter maintenance; allow for 3 visits to site after completion for filter cleaning	1	item			
				To Collection €		

	(5-) MECHANICAL INSTALLATION (Cont)					
	Working drawings; all in accordance with Engineers Specification					
A	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
B	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
C	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
D	Identification plates, labels and the like	1	item			
	(52) DRAINAGE AND REFUSE DISPOSAL					
	System					
	Soils and Waste Drainage Installation, testing and commissioning; complete; The complete installation of all above ground foul water drainage and refuse disposals; The Mechanical Contractor shall also be responsible for removal from storage and carriage to the position, erection of each item and all connections to and from the sanitaryware as detailed on the drawings and within this specification; all in strict accordance with the Mechanical Engineers Specification					
	Distribution System					
	Condensate pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work; all in strict accordance with the Mechanical Specification					
E	28mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
F	32mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
G	Testing and commissioning	1	item			

To Collection €

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Operating and maintenance manuals; all in accordance with Engineers Specification					
A	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
B	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
C	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
D	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
E	Identification plates, labels and the like	1	item			
	(54) GAS DISTRIBUTION - LPG GAS SERVICES					
	System					
	LPG Gas distribution; installation testing and commissioning; The school building will be fed from a new incoming LPG gas supply; The contractor shall allow for liaising with the gas supplier regarding coordination of works and certification of the site gas pipework and tank installation; LPG installation shall be installed in compliance with IS3213; all in strict accordance with the Mechanical Specification Part 1, Part 2, Part 3 and Part 4					
	Accessories associated with Primary Equipment					
	Isolation Valves; isolation of gas services pipework; include for all accessories; all in strict accordance with the Mechanical Specification Part 3					
F	40mm Stop valves	4	nr			
	Gas Meter; Low pressure drop turbine gas meter; Gas meter to have volt free contacts for connection to the BMS; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
G	Gas Meter	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Distribution System					
	Galvanised Medium Grade Mild steel pipework and fittings; include for all fixings and supports, elbows,expansion bellows; unions and tees necessary to complete works; Painted with two coats of yellow ochre paint; pipework run in ceiling voids; all in strict accordance with the Mechanical Specification Part 3					
A	40mm diameter pipework	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
B	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
C	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
D	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
E	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
F	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
G	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(54) GAS DETECTION SYSTEM					
	System					
	Gas detection system installation testing and commissioning; A gas leak detection system shall be supplied, installed, tested and commissioned in the new Boiler House as indicated on the design drawings, schematics and as described in Part 4: Equipment Schedules; The system shall comprise of a control panel c/w integral emergency stop activation, emergency slam shut solenoid valve fitted to the gas pipework at point of entry to the building, LPG sensors at low level below the boiler and remote emergency knock off button. The system shall shut down the gas supply to the Boiler Room / Building on detection of a leak or activation of the building fire alarm. See Part 4: Equipment Schedule for performance specification. The gas detection panel shall be provided with volt free contacts and an I/O interface unit for connection to the schools fire alarm system; all in strict accordance with the Mechanical Engineers Specification					
	Primary Equipment					
	Gas detection control panel; supply and installation complete; Description: Gas Leak Detection & Isolation System; Panel Dimensions: 183mm(H) x 212mm(W) x 97mm(D); IP Rating: IP65; Electrical Supply: 1ph, 230V, 50Hz; Auxillary Position Status Facility: Required on solenoid valve for BMS; Gas Detector Type: LPG; Gas Detector Calibration: Pre alarm: 5% of low explosion level High alarm: 10% of low explosion level; Quantity of Gas Detectors per System: 4no.; Integral Emergency Stop Button & Reset: Required; Auxiliary Emergency Stop Button: 1 no. for each Plant room; Audible Alarm: Required; LED Indication: Power # GREEN, Gas On - RED; include for all accessories and fittings; complete; all in accordance with the Mechanical schedule 3.1, Mechanical Specification					
A	Gas detection control panel; Ref: CP-01	1	nr			
	Accessories associated with Primary Equipment					
	Slam Shut Valves; include for all accessories; all in strict accordance with the Mechanical Specification Part 3					
B	40mm Slam shut valves	1	nr			
	Emergency Stop Button; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification					
C	Emergency Stop Button	1	nr			
	Gas Sensor; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification					
D	Gas Sensor	3	nr			

To Collection €

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	(5-) MECHANICAL INSTALLATION (Cont)					
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
A	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
B	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
C	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
D	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
E	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
F	Identification plates, labels and the like	1	item			
G						
	(58) BUILDING ENERGY MANAGEMENT SYSTEM					
	System					
	BEMS System Installation; testing and commissioning; complete; The BEMS systems shall be an open protocol computer based systems that monitors and initiates stop and start sequences for all the mechanical plant and equipment. The systems shall permit the end user to login to the system accessing plant time scheduling and operational status, together with temperature values and data logging. All alarms shall be available for review on each School#s front end and all temperatures shall be logged and extracted graphically for review. All logging data shall be stored in a SQL database for external use. The electrical meters supplied by the electrical contractor under the LV switchgear shall be connected to the BEMS electrical meter system supplied under the electrical contract and all information shall be integrated within the same software package; all in accordance with the Mechanical Engineers Specification and Drawings ME5801					
H	Generally	1	item			

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Primary Equipment					
	Control Panel; supply and installation; complete; A new wall-mounted Mechanical Control Panel complete with a BEMS outstation and GSM module shall be provided in the new Heating Plant room of each main school and in its associated Multi-Purpose Hall Heating Plant room; Each control panel shall be provided with a touchscreen interface for access to setpoints, sensor readings and alarms; The MCC control panels shall be complete with Hand/Off/Auto selector switching for all items of plant with full functionality and indicator lamps, red for fault, green for healthy. Each BEMS control system shall relay all information back to the central monitoring system / front end and the electrical metering system; all in strict accordance with the Mechanical Engineers Equipment Schedule no. 6.1, Mechanical specification section no. 10.3 and Mechanical drawings ME5801					
A	Control Panel	1	nr			
	Front End PC c/w Software Licence; supply and installation; complete; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification and drawing ME5801					
B	Front End PC c/w Software Licence	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(58) FIRE PROTECTION INSTALLATION					
	System					
	Fire Fighting installation, testing and commissioning; complete; Hand held fire extinguishers and fire blankets shall be provided throughout the building as detailed on the drawings; The installation will comply with BS 5306-2000-Part 8; The Contractor shall be responsible for carrying out the commissioning of the portable fire extinguishers before they are installed; all in strict accordance with the Mechanical Specification					
	Terminal equipment and Fittings					
	Fire Extinguishers supply and installation; complete with 5 years guarantee, CE approved and marked; all in accordance with the Mechanical Specification					
A	5KG CO2 Gas Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
B	5kg ABC Dry Powder Fire Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	MECHANICAL INSTALLATIONS					
	Sundries & Builders Work					
	General Attendances					
A	Provide all general attendances in accordance with Arm 4 .	1	item			
B	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
C	Provide use of the Main Contractors scaffolding.	1	item			
D	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
E	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
F	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
G	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Mechanical services works, including testing and commissioning , and pay all ongoing operation charges.	1	item			
H	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
J	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
K	Provide temporary telephone services to the Mechanical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
L	Include for unloading, hoisting/cranage and placing into position all items of heavy plant and site offices supplied by the sub-contractors.	1	item			
M	Allow for maintaining all ducts, chases, trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
N	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
P	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
Q	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
R	Provide all special attendances in accordance with Arm 4 Clause 3.1	1	item			

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Provide temporary roads and hardstandings in connection with heavy items of plant and the like.	1	item			
B	Provide accommodation for the sub-contractor's staff for eating, site lavatories, site washing facilities, and cloaks.	1	item			
C	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
D	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
E	Provide temporary distribution systems for lighting, power, water for the execution of the electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
F	Provide the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
G	Protection of the works the Main Contractor is responsible for providing adequate protection at all times for the Mechanical services installation.	1	item			
H	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day.	1	item			
J	Provide external access to high level on building facade to permit the installation of any external equipment/fittings and for the removal of existing services as required.	1	item			
K	Provide Mobile Elevated Working Platforms (MEWP) or scaffolding for Mechanical sub-contractors working at high level.	1	item			
L	Provide for weathering & sleeving around all penetrations through the external structure of the building and to allow for sealing to fabric to maintain air tightness.	1	item			
M	Allow for maintaining all ducts, chases, trenches, trunking etc, clean and free of all water, debris and rodents at all times.	1	item			
N	Allow for making good and fire sealing of all builders work opes with proprietary sealant to architects details, where services penetrate fire zones.	1	item			
P	Allow for coordination with local authorities and utility providers in respect of application for connections, providing excavation of roads and full coordination with various utility companies.	1	item			
Q	Coordinate with Mechanical Contractor to facilitate fitting of all sanitary ware.	1	item			
R	Allow for patrices behind ceiling tiles and ceilings for the support of light fittings, grilles, smoke detectors, sensors etc.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Allow for weathering details on all services passing through external envelope.	1	item			
B	Allow for all service / utility entries into building.	1	item			
C	Allow for clearing away and disposal of any rubbish.	1	item			
D	Provide safe access to roofspace to facilitate Mechanical installation work.	1	item			
E	Making good of opes for fire smoke dampers.	1	item			
F	Provide and maintain the specific temperatures and humidity levels.	1	item			
G	Contractor to provide for the construction of a walkway within the Attic space for service and maintenance of water and ventilation services.	1	item			
H	Contractor to ensure all existing services shut downs for connecting in new and changeovers shall be carried out between 10pm on a Sunday Night and 6pm on a Monday morning, to avoid any interruptions of the running of the existing school; times to be agreed with school management.	1	item			
J	Provide plywood protective cover over boiler for protection.	1	item			
	Unload, hoist distribute, and place in position the following items of plant and equipment:					
K	Gas boiler	1	item			
L	Heat pumps	1	item			
M	Pumps	1	item			
	Sundries & Builders Work					
	General					
N	Marking positions of holes, mortices and chases	1	item			
P	Testing & Commissioning	1	item			
Q	Preparing drawings of "as completed" installations	1	item			
R	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
S	Keys, tools and spares	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	In-situ concrete; plain; to IS EN 206; Grade C30; formwork to sides of platform, powerfloating finish; all in strict accordance with the Engineers Drawings and Specification					
	Bases					
A	Size 850mm x 1650mm x 100mm thick	1	nr			
B	Size 1850mm x 1100mm x 100mm thick	1	nr			
C	Size 2650mm x 1850mm x 100mm thick	1	nr			
	Equipment supports; provide mounting grounds for the installation of the following fittings; making good structure and finishes; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
	Equipment supports					
D	Provide wall fixings for portable fire extinguishers to walls at 1500mm above floor	2	nr			
	Forming or cutting holes; including sleeves/plates, making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
E	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
F	cutting or forming opes is deemed to include the making good and sealing of the ope around the pipe or duct		note			
	For ducts/pipes through exisitng external cavity blockwork wall, include for building in sleeves; weather proofing, making good all finishes on completion					
G	Size 1000mm x 250mm opes	1	nr			
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification and Drawings					
	Special works were services pass through structures; external walls, making good all finishes on completion					
H	Size 1000mm x 250mm opes	1	nr			
				To Collection €		

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.2/7					
Page No. Lot 8.2/8					
Page No. Lot 8.2/9					
Page No. Lot 8.2/10					
Page No. Lot 8.2/11					
Page No. Lot 8.2/12					
Page No. Lot 8.2/13					
Page No. Lot 8.2/14					
Page No. Lot 8.2/15					
Page No. Lot 8.2/16					
Page No. Lot 8.2/17					
Page No. Lot 8.2/18					
Page No. Lot 8.2/19					
Page No. Lot 8.2/20					
Page No. Lot 8.2/21					
Page No. Lot 8.2/22					
Page No. Lot 8.2/23					
Page No. Lot 8.2/24					
Page No. Lot 8.2/25					
Page No. Lot 8.2/26					
Page No. Lot 8.2/27					

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.2/28					
(5-) MECHANICAL INSTALLATION **Carried to Summary**					

					€	c
	(6-) ELECTRICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Existing ESB Meter; safe isolation, disconnection, decommissioning and removal of the existing ESB meter installation associated with the school#s main switchboard; Trace and identify the incoming ESB supply cable from the intake point to the main switchboard; Works shall include full coordination with ESB Networks and compliance with all statutory requirements; making good all disturbed finishes; all in strict accordance with Electrical Specification and Drawing ME-5901					
C	Alterations to existing switch board MDB-1 to facilitate the installation of new 250A TP&N sub-mains connection (sub-main cable & TP&N device measured elsewhere); allow for safe isolation and disconnection of existing sub-mains and disposal off site; modify existing DB as required to accommodate the new connection; Include all isolation, shutdown coordination, and commissioning; all in strict accordance with Electrical Specification and Drawing ME-5901	1	item			
	Notes					
D	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
E	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
F	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES					
	(61) ELECTRICITY SUPPLY & MAIN DISTRIBUTION - LV INSTALLATIONS					
	System					
	LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	LV Installations	1	item			
	Equipment					
	Main Switch Distribution Board; supply and installation; complete; Enclosure Type: Form 4B Type 2; Material Body: Electro galvanised iron-phospated steel plate; Frame: 2.5mm thick steelwork, Doors/covers: 2mm steelwork, Finish: epoxy self etching filler primer undercoat, 2nr stove enameled synthetic paint finishing coats; Colour: Light grey, RAL 7035, powder lacquered; Cable Entry: bottom; Cable Exit: Top; IP Rating: IP54; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; HOA switches, Integral isolating switches, CTU's, open/closed contractors; remote key switches, phase indicator lamps, time clocks, metering, surge protection, space for future power factor correction equipment and automatic changeover; earth terminal; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in accordance with the Electrical Project Particular Specifications and Drawing E-6000					
B	Distribution board; Ref: MDB-2; Location: Switch room	1	nr			
	Fittings					
C	Isolation device; supply and installation; complete; terminating of incoming and outcoming cabling; all in accordance with the Electrical Specifications					
D	Isolation device; 63A TPN	1	nr			
E	Isolation device; 160A TPN	1	nr			
F	Isolation device; 250A TPN	1	nr			

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	3	nr			
	Rubber Mat; supply and installation; complete; The contractor shall supply and install a suitable slim rubber mat for each LV switchboard complying with BS 91 - 1976 adjacent each switchboard. The mat shall be 1 metre wide and shall run the complete length of the main switchboard and shall be fixed securely to avoid potential trip hazards; all in accordance with the Electrical Specifications					
B	Insulated matting; Ref: MDB-1, Existing	1	nr			
C	Insulated matting; Ref: MDB-2	1	nr			
	Main switchboard circuit chart; 'A1' framed drawing of the switchboard to be installed within the switch room; the drawing shall be framed with a perspex cover; include for all accessories; in strict accordance with the Electrical Specification					
D	Main switchboard; Ref: MDB-1	1	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
E	Circuit charts to switch boards; Ref: MDB-2	1	nr			
	Health Safety & Shocks Chart; the contractor shall provide an 'Electrical Review' First Aid Chart, 508 mm x 381 mm, wall chart of Instructions for Dealing with Electric Shock, located alongside each LV switchboard, These shall be printed in red and black, sheathed in plastic; all in accordance with the Electrical Specifications					
F	Health Safety & Shocks Chart	1	nr			
	<u>Mains and Sub-mains cables</u>					
	Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
G	Submains Ref: 5; REN-01 to MSB-1; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
H	Submains Ref: 5; REN-01 to MSB-2; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			

To Collection €

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	(6-) ELECTRICAL INSTALLATION (Cont)					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 5; MSB-02 to ASHP01; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
B	Submains Ref: 5; MSB-02 to ASHP02; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
C	Submains Ref: -; MSB-02 to BMS Panel; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
D	General earthing and bonding	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

(6-) ELECTRICAL INSTALLATION (Cont)

(62) POWER - CONTAINMENT

System

Cable ladder/tray/trunking installation, testing and commissioning; complete; The Contractor must allow for the supply and installation of a complete cable support system using cable tray, trunking, conduit and support steelwork as shown on the drawings and as detailed in the specification. The Contractor shall include for all incidental cable containment which may not be shown on the drawings but which may be required to effect cable routes to individual items of equipment, luminaires etc; include for all joints, fixing brackets and supports; all exposed and extraneous conductive parts are to be boned and properly earthed in accordance with current wiring regulations; all in accordance with the Electrical Engineers Specification and Drawings E-5901

A	Cable Tray; Submains; heavy duty galvanised steel; size 200mm wide x 60mm high; complete	1	item		
B	Cable Basket; CAT 6A cable; heavy duty galvanised steel; size 300mm x 65mm wide; complete	1	item		
C	Conduit; galvanised steel; size 25mm diameter; complete	1	item		
D	Conduit; galvanised steel; size 50mm diameter; complete	1	item		
E	Conduit; flexible steel; size 25mm diameter; complete	1	item		

General Earthing and Bonding

General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification

F	General earthing and bonding	1	item		

General

Testing and commissioning; all in accordance with Engineers Specification

G	Testing and commissioning; complete	1	item		

Operating and maintenance manuals; all in accordance with Engineers Specification

H	Operating and maintenance manuals; complete	1	item		

Working drawings; all in accordance with Engineers Specification

J	Working drawings; complete	1	item		

Co-ordination drawings; all in accordance with Engineers Specification

K	Co-ordination drawings; complete	1	item		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like; complete	1	item			
	(62) POWER - GENERAL SERVICES					
	System					
	General Services and small power installation, testing and commissioning; complete; to include vampire load design strategy; all in accordance with the Electrical Specification and Drawings ME-5801					
C	General Services Installation	1	item			
	Accessories associated with terminal equipment					
	Isolation device; supply and installation (including wiring); complete; surface mounting; include for all accessories and fixings; c/w galvanised steel back boxes; include for all accessories and fixings; all in strict accordance with the Electrical Specification					
D	16amp SPN Isolator	9	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
H	Working drawings	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with Engineers Specification					
A	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
B	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
C	Identification plates, labels and the like	1	item			
	(65) PROTECTIVE SERVICES - EARTHING AND BONDING					
	System					
	Earthing and Bonding; installation; testing and commissioning; The Electrical Contractor shall supply, install, test and commission a complete earthing and bonding system in accordance with the Electricity Supply Company requirements, current best practice, I.S. 10101, this Specification and Drawings. The Electrical Contractor shall form an equipotential zone in the building to provide protection against indirect contact, by bonding all extraneous and exposed conductive parts to the main earth terminal; all in accordance with the Electrical Engineers Specification and drawing E-6000					
D	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
E	Main Earth Terminal Bar	1	nr			
	Main earth conductor cable; supply and installation complete; 95mm2 LSF green/ yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
F	Earth terminal bar to earth pits	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Main earth conductor cable; supply and installation complete; Cable 95mm2 LSF green/yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
A	From MSB-2 to earth terminal bar	1	item			
	Main equipotential earth bonding; Cable: 95mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
B	Incoming Water Main	1	item			
C	Incoming Gas Main	1	item			
D	Metal drainage pipes	1	item			
E	Structural Steelwork	1	item			
F	Main Heating Pipework	1	item			
G	Main Ventilation Ductwork	1	item			
H	Lightning Protection System	1	item			
J	Lift shaft steel work	1	item			
K	Eircom DP	1	item			
	Main equipotential earth bonding; Cable: 16mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
L	Earth terminal bar to Comms cabinets	1	item			
	Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations; all in accordance with the Electrical Engineers Specification					
M	Metallic Wireways and Containment	1	item			
N	Suspended Ceiling Grids	1	item			
P	Wash Hand Basins	1	item			
Q	Showers	1	item			
R	Sinks	1	item			
S	WC's	1	item			
T	Cleaners Sinks	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Catering equipment	1	item			
B	Metal worktops	1	item			
C	Plant room Pipework	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
D	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	(65) SECURITY & PROTECTION - SURGE PROTECTION					
	System					
	Transient & Over voltage Protection installation, testing and commissioning; TSurge Protection Devices (SPDs) shall be installed in switchboards and distribution boards as described below to suppress over voltages and transients due to network disturbances and or lightning strikes. Class 1 & 2 SPDs shall be fitted to each main switchboard at supply the intake point. Class 2 SPDs shall be fitted downstream at each local distribution board. These units shall be rail mounted within a dedicated compartment of the switchboard or distribution board. SPDs shall comply with IEC/EN 61643 11:2012 guidelines; all in accordance with the Electrical Engineers Specification and Drawing E-6000					
A	Transitent & Overvoltage Protection	1	item			
	Fittings					
	Surge Suppression Devices; installation (including wiring); complete; all in strict accordance with the Electrical Engineers Specification and Drawings					
B	Surge Protection Type 1; REN-1	1	item			
C	Surge Protection Type 3; MDB-2	1	item			
D	Surge Protection Type 3; MDB-1 submains	1	item			
E	Surge Protection Type 3; MDB-2 submains	1	item			
F	Surge Protection Type 3; ASHP01 submains	1	item			
G	Surge Protection Type 3; ASHP02 submains	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
H	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
J	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
K	Operating and maintenance manuals	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Working drawings; all in accordance with Engineers Specification					
A	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
B	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
C	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
D	Identification plates, labels and the like	1	item			
	(68) MECHANICAL WIRING INSTALLATIONS					
	Mechanical Wiring Installation; testing and commissioning; complete; Electrical Contractor must provide and issue as installed drawings for all electrical cabling associated with mechanical services. All wiring for mechanical services must be carried out under this contract to include wiring for heating, ventilation etc. The wiring to all mechanical devices must be taken from dedicated MCC (motor control center) panels supplies; all in accordance with the Mechanical and Electrical Specification and Drawing M-5101					
E	Mechanical Wiring Installation	1	item			
	Fittings					
	Gas detection system mechanical wiring provisions and final connections (ONLY); installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV control wiring cables to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Mechanical and Electrical Specification					
F	Gas detection control panel (Location: Boiler room)	1	nr			
G	40mm dia Gas solenoid valve	1	nr			
H	Emergency Stop Button	1	nr			
J	Gas detector	1	nr			
K	Heat detector	1	nr			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Frost protection mechanical wiring provisions and final connections (ONLY); installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV control wiring cables to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Electrical Engineers Specifications					
A	Oil filled Electric radiator; Size 1000mm long x 500mm high; Output 1000w	1	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers					
B	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers Specification Documents					
C	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers Specification Documents					
D	Operating and maintenance manuals; complete	1	item			
	Working drawings; all in accordance with the Electrical Engineers Specification Documents					
E	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers Specification Documents					
F	Co- ordination drawings;complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers Specification Documents					
G	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers Specification Documents					
H	Identification plates, labels and the like; complete	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	(68) BMS WIRING INSTALLATIONS					
	System					
	BMS Wiring Installation; testing and commissioning; complete; Electrical Contractor must provide and issue as installed drawings for all electrical cabling associated with mechanical services. All wiring for mechanical services must be carried out under this contract to include wiring for heating, ventilation etc. The wiring to all mechanical devices must be taken from dedicated MCC (motor control center) panels supplied as a 'Free Issue' item by the Mechanical Contractor as part of the BMS installation, and must be installed and connected up by the electrical contractor. Generally, the MCC panels must be installed in boiler houses, plant rooms, etc.; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
A	BMS Wiring Installation	1	item			
	Equipment					
	Mechanical Control Panel; Mechanical and BMS wiring installation, testing and commissioning; complete; The Contractor shall allow for all wiring associated with the installation of the MCC and BMS outstations; The Contractor shall allow for all switchgear as indicated on the electrical services connection schedules and reflected on the electrical services layouts; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
B	Mechanical Control Center; Ref: MCC Panel, Location: Boiler Room	1	item			
	Fittings					
	BMS final connections and wiring installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV / control wiring cables fed from the BMS panel (Location: exisitng school plant room) to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Electrical Engineers Specifications and Drawing ME-5801					
C	Point 002; Fire Alarm Interface	1	nr			
D	Point 003; CAT 6A to local Comms cabinet	1	nr			
E	Point 004; Boiler supply (B1)	1	nr			
F	Point 006; Enable/ Fault	1	nr			
G	Point 007; Boiler supply (B2)	1	nr			
H	Point 008; Enable/ Fault	1	nr			
J	Point 009; Boiler supply (B3)	1	nr			
K	Point 010; Enable/ Fault	1	nr			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 011; Pressurissation unit supply (PU1)	1	nr			
B	Point 012; High/Low level Fault	1	nr			
C	Point 013; LPHW (P1) - Primary circuit	1	nr			
D	Point 014; Enable/ Fault	1	nr			
E	Point 015; LPHW (P2) - Circuit 1	1	nr			
F	Point 016; Enable/ Fault	1	nr			
G	Point 017; Heat meter supply - Boiler	1	nr			
H	Point 018; Heat meter pulsed signal	1	nr			
J	Point 019; Heat meter supply - Heat Pump	1	nr			
K	Point 020; Heat meter pulsed signal	1	nr			
L	Point 021; Gas Detection Panel	1	nr			
M	Point 022; Valve Position /Ststus	1	nr			
N	Point 023; Outdoor Air Temp Sensor (north wall)	1	nr			
P	Point 024; ASHP primary flow immersion temp sensor	1	nr			
Q	Point 025; ASHP primary return immersion temp sensor	1	nr			
R	Point 026; ASHP flow high limit stat	1	nr			
S	Point 027; Boiler primary flow immersion temp sensor	1	nr			
T	Point 028; Boiler primary return immersion temp sensor	1	nr			
U	Point 029; Boiler flow high limit stat	1	nr			
V	Point 030; LPHW heating circuit flow temp sensor (P1)	1	nr			
W	Point 031; LPHW heating circuit return temp sensor (P1)	1	nr			
X	Point 032; LPHW buffer vessel temp sensor	1	nr			
Y	Point 033; LPHW buffer outlet flow temp sensor	1	nr			
Z	Point 034; LPHW buffer outlet return temp sensor	1	nr			
AA	Point 035; Mains water incoming meter (pulsed signal)	1	nr			
BB	Point 036; LPG gas meter boiler supply (pulsed signal)	1	nr			
CC	Point 037; Run on timer - circuit 1	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 038; Run on timer - circuit 2	1	nr			
B	Point 039; Run on timer - circuit 3	1	nr			
C	Point 040; Run on timer - circuit 4	1	nr			
D	Point 041; Modbus interface to ASHP	1	nr			
E	Point 042; Electrical switchboard meters (MODBUS)	1	nr			
F	Point 043; Future - power & control cable to temp stats	1	nr			
	Final Circuits (including all points terminations)					
	Final Circuits; installation, testing and commissioning; Complete; Final circuits shall be fed from local sub-distribution board; Installation: Sub-circuit wiring 4c 2.5mm2 LSZH & 2.5 CPC; shall be drawn in concealed galvanized steel conduit and/or galvanized steel trunking; all in accordance with the Electrical Engineers Specification and Control points schedule					
	Final Circuits - BMS Panel					
G	Power - Boiler (B1)	1	nr			
H	Power - Boiler (B2)	1	nr			
J	Power - Boiler (B3)	1	nr			
K	Power - Pressurisation Unit (PU1)	1	nr			
L	Power - LPHW (P1) - Primary circuit	1	nr			
M	Power - LPHW (P2) - Circuit 1	1	nr			
N	Power - Heat meter supply - Boiler	1	nr			
P	Power - Heat meter supply - Heat Pump	1	nr			
Q	Power - Gas Detection	1	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
R	General Earthing and Bonding; complete		item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers Specification Documents					
A	Testing and commissioning; complete		item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers Specification Documents					
B	Operating and maintenance manuals; complete		item			
	Working drawings; all in accordance with the Electrical Engineers Specification Documents					
C	Working drawings; complete		item			
	Co-ordination drawings; all in accordance with the Electrical Engineers Specification Documents					
D	Co-ordination drawings;complete		item			
	As built drawings; all in accordance with the Electrical Engineers Specification Documents					
E	As built drawings; complete		item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers Specification Documents					
F	Identification plates, labels and the like; complete		item			
	ELECTRICAL INSTALLATIONS					
	Sundries and Builders Work					
	General Attendances					
G	Provide all general attendances in accordance with Arm 4.	1	item			
H	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
J	Provide use of the Main Contractors scaffolding.	1	item			
K	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
L	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
B	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
C	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
D	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
E	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
F	Include for unloading, hoisting/cranage and placing into position all items of heavy plant supplied by the subcontractors.	1	item			
G	Allow for maintaining all ducts, chases , trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
H	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
J	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
K	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	<u>Special Attendances</u>					
L	Provide all special attendances in accordance with Arm 4 Work Section B Clause 3.1	1	item			
M	Provide temporary access roads and hardstanding in connection with heavy items of plant and the like, forming part of the site establishment works	1	item			
N	Provide scaffolding internal and external to the building to facilitate installation of high-level electrical services during the contract	1	item			
P	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
Q	Provide adequate barriers/tape/signage of exclusion zoning in relation to use of access equipment and ACOPs for working at height	1	item			
R	Provide construction signage (internal and external) in relation to M&E services e.g live systems etc.	1	item			
S	Provide temporary lighting and power in accordance with IS10101 Wiring Regulations.	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide protection to all M&E services installations installed during the works including protection against debris and water ingress	1	item			
B	Provide fire stopping to all electrical services on the vertical and horizontal planes throughout the entire buildings	1	item			
C	Ensure close coordination during the building phase to ensure electrical, ventilation and mechanical services are installed and integrated within the building fabric as designed.	1	item			
D	Provide grounds and fixings for suspension of Electrical services; Electrical loading = 10kg/m Mechanical loading = 40kg/m	1	item			
E	Provide boxing out of containment and pipework as necessary, boxing to be accessible with screwed access.	1	item			
F	Main contractor shall employ a full time M&E Co-ordinator for the duration of the contract works and their duties shall include but not limited to details set out within the specification A2.4 Part 1 of 4 particular specification document	1	item			
G	Contractor shall be aware that drawings are indicative only including the minimum ope sizes; It will be the contractors responsibility in conjunction with their in-house M&E services coordinator to produce construction stage builders works drawings for DT comment	1	item			
H	Provide safe access and task lighting for electrical sub-contractor to all sections of school roofspace	1	item			
J	Provide safe access for electrical sub-contractor to all sections of the site	1	item			
K	The M&E installation within the SEN accommodation is to be a fully recessed installation. The contractor shall include for casting in of all electrical services and recessing of all radiators within the wall panels	1	item			
L	Seal all incoming services to prevent ingress of vermin	1	item			
M	Fire Stopping to all services penetrations throughout	1	item			
N	Attendance to electrical sub-contractor	1	item			
P	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
Q	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
R	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
S	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
B	Provide temporary power supplies (3 phase 400V and maximum loading 15kVA) for welding, handtools, and for commissioning, including infrastructure and all charges fot the contractors use of the facility.	1	item			
C	Provide scaffolding additional to the main contractors standing scaffolding, or access towers if required.	1	item			
D	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day	1	item			
E	Provide facilities for safe removal and disposal of all materials off site	1	item			
F	Provide a week by week program detailing the Mechanical and Electrical service activities	1	item			
G	Provide for heating / drying out the building as and when necessary to comply with their program. This may be done (at the clients specific consent) with the installed conventional heating system (if available). Be responsible, however, for providing the fuel to do this. Be responsible for maintaining background heat until the building is handed over to the client, after the heating system has been commissioned	1	item			
H	Provide and maintain the specific temperatures and humidity levels	1	item			
J	Provide Builders Attendances to all utility services as follows; Gas Networks Ireland, Eir, Virgin Media, Local Authority, ESB Networks.	1	item			
K	Fire stopping requirements of all services penetrations through fire compartment structures to be the responsibility of the building contractor. In addition, all pipework, ductwork, containment and service penetrations shall be fire-stopped where passing through every wall, floor and ceiling regardless if its a fire compartment or not by main contractor. Refer to M&E services drawings indicating main routes of M&E infrastructure. All instances of firestopping shall be labelled and certified using CE certified products including fire-pillows for use inside electrical trunkings.	1	item			
	Unload, hoist, distribute and place in position the following items of heavy plant and equipment					
L	Main switch board	1	item			
M	Sub-distribution boards	1	item			
N	MCC panel	1	item			
P	Containment	1	item			
Q	Cabling	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Lighting	1	item			
B	PV Panels	1	item			
	Sundries & Builders Work					
	General					
C	Marking positions of holes, mortices and chases	1	item			
D	Testing & Commissioning	1	item			
E	Preparing drawings of "as completed" installations	1	item			
F	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
G	Keys, tools and spares	1	item			
	Forming or cutting holes/mortices/chases and the like; including sleeves/plates, intumescent collars; making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
H	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
J	cutting or forming opes is deemed to include the making good and sealing of the ope		note			
	Cutting or forming holes through existing external walls various thicknesses; include for building in sleeves; making good all finishes on completion					
K	600mm x 150mm opes	1	nr			
	Cutting or forming holes through existing internal walls various thicknesses; include for building in sleeves; making good all finishes on completion					
L	440mm x 225mm opes	2	nr			
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification P12					
	Special works were services pass through structures; existing external walls various thicknesses, making good all finishes on completion					
M	440mm x 225mm opes	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Special works were services pass through structures; existing internal walls various thicknesses, making good all finishes on completion					
A	440mm x 225mm opes	2	nr			
				To Collection €		

				€	c
(6-) ELECTRICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.2/31					
Page No. Lot 8.2/32					
Page No. Lot 8.2/33					
Page No. Lot 8.2/34					
Page No. Lot 8.2/35					
Page No. Lot 8.2/36					
Page No. Lot 8.2/37					
Page No. Lot 8.2/38					
Page No. Lot 8.2/39					
Page No. Lot 8.2/40					
Page No. Lot 8.2/41					
Page No. Lot 8.2/42					
Page No. Lot 8.2/43					
Page No. Lot 8.2/44					
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Page No. Lot 8.2/46					
Page No. Lot 8.2/47					
Page No. Lot 8.2/48					
Page No. Lot 8.2/49					
Page No. Lot 8.2/50					
Page No. Lot 8.2/51					
(6-) ELECTRICAL INSTALLATION **Carried to Summary**					

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND					
	EXCAVATION AND EARTHWORK					
	Excavation					
	Excavation					
	Reduce levels					
A	Depth between not exceeding 2.00m	25	m3			
	Extra on Excavation Items for:					
	Breaking up existing					
B	Hard surfaces; Tarmacadam surface; 100mm thick; complete	35	m2			
	Disposal					
	Water					
C	Surface	1	item			
D	Ground	1	item			
	Excavated material; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
E	Disposal off site	21	m3			
F	Disposal off site; existing Tarmac; Disposal to a suitable licensed waste disposal facility	4	m3			
	Filling with hardcore to be obtained off-site; clean angular gravel 20mm, free from pyrite and macarsite as per specification					
	To make up levels					
G	Average thickness not exceeding 250mm	4	m3			
	Filling with hardcore to be obtained off-site; Clause 804 crushed stone well compacted on firm clean formation; compliant with TII Publications series 800, free from pyrite and macarsite as per specification					
	To make up levels					
H	Average thickness not exceeding 250mm	4	m3			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Filling with granular fill material to be obtained off-site; Class 6F2 compliant with TII Publications series 600, free from pyrite and macarsite; depositing in 150mm layers maximum thickness; compacting; as per Drawings and Specification					
	To make up levels					
A	Average thickness exceeding 250mm	11	m3			
	Surface treatments					
	Levelling and compacting; bottom of excavations					
B	Horizontal	35	m2			
	CONCRETE WORK					
	In-situ Concrete					
	Concrete cubes for testing					
	Provide for making concrete cubes from freshly mixed concrete; transporting and testing cubes; all as per details in the Specification					
C	Size 150 x 150 x 150mm	2	nr			
	In-situ Concrete; Reinforced					
	Grade C40/5-XF4 to IS EN 206					
	Beds					
D	Generally; Reinforced	7	m3			
	Surface Finishes					
	Brushed finish to wet concrete as per Specifications					
E	Generally	35	m2			
	Reinforcement					
	Fabric					
	A252 mesh reinforcement; 350mm laps; 350mm end laps; all in strict accordance with the Engineers Drawings and Specification					
F	Horizontal	35	m2			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Formwork					
	Formwork Generally					
	Sides of beds					
A	Height or width 250 - 500mm	24	m			
B	Extra over for forming recess in floor slab for district heating pipe; comprising 65mm dia x 400mm deep recess; include for cutting to all angles and corners	4	nr			
	SURFACE PAVINGS, FENCING AND LANDSCAPING					
	Fencing					
	Reflective Acoustic Post and Panel Fencing; Birkdale DuraPost or equivalent, comprising of commercial DuraPosts constructed from cold rolled pre-galvanised (DX51D Z275NA-C) steel, manufactured to EN 10346. Treated Redwood Acoustic Timber Boards constructed from 70% PEFC Certified 200mm x 47mm slow-grown redwood boards. The rebated capping is constructed from 85mm x 35mm twice weathered 70% PEFC Certified slow-grown redwood. EPDM Rubber Seal 10mm thick x 50mm wide Cellular Adhesive EPDM Sponge Strip. A general purpose sponge rubber with excellent resistance. Static Load Testing; 1447kg / 14.2kN. Acoustic Rating; 28dB Reduction. ass/M2 (Timber Boards) 23.7kg/M2. 350 x 350 x 600mm Grade C30/37 concrete bases set 100mm below ground level; all as per Specification and Drawing					
	Acoustic Paladin Fencing System					
C	2400mm high above ground level	24	m			
	Extra over for					
D	Angle posts; 60x60x2 SHS posts, 2400mm high above ground level and 900mm below ground level; set in 450x450x600mm deep concrete grade C28/35 base	4	nr			
	Gates					
E	Single gate; opening size approx 1000 x 2400mm high	1	nr			
	100x100x10 SHS hot dipped galvanised SHS powder coated post; gate posts set in 1000x1000x1000mm C28/35 concrete pocket; top of concrete 300mm below ground level; galvanised to Specification and polyester powder coating to Specification in selected colour, colour to be chosen by the Architect from samples provided on site by the Contractor; complete					
	Gate Posts					
F	100 x 100 SHS posts; 2400mm high above ground level and 900mm below ground level; min 600mm embedment in concrete	2	nr			

				€	c
(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
COLLECTION					
Page No. Lot 8.2/53					
Page No. Lot 8.2/54					
Page No. Lot 8.2/55					
(30) SITE ENCLOSURES - PLANT COMPOUND **Carried to Summary**					

					€	c
	(50) SITE SERVICES - DISTRICT HEATING					
	DRAINAGE/SERVICES - DISTRICT HEATING					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr duct not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported compacted stone fill; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations; as per Engineer's Drawing					
C	Average depth 500 - 1000mm	41	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
D	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	5	m			
E	Excavating existing grass and making good to match existing after excavation and drainage runs have been laid	36	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	3	nr			
G	Foul pipe; crossing excavations	2	nr			
H	ESB; crossing excavations	2	nr			

					€	c
	(50) SITE SERVICES - DISTRICT HEATING (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Sand bed and surround; to Engineer's Specification					
	Beds and Surrounds					
C	525 x 250mm; to 2nr 125mm duct	41	m			
	PVC marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	41	m			
	Ductwork					
	125mm diameter					
E	Laid in trenches	81	m			
F	Extra over for easy sweep bends	4	nr			
	MECHANICAL INSTALLATIONS					
	Generally					
	General; complete; refer to M&E Drawings, M&E Mechanical Engineering General Specification					
	General					
G	Testing and commissioning; all in accordance with Engineers specification documents and drawings	1	Item			
H	Operating and maintenance manuals; all in accordance with Engineers specification documents and drawings	1	Item			
J	Working drawings; all in accordance with Engineerss specification documents and drawings	1	Item			
K	Co- ordination drawings; all in accordance with Engineers specification documents and drawings	1	Item			
L	As built drawings; all in accordance with Engineers specification documents and drawings	1	Item			
M	Identification plates, labels and the like; all in accordance with Engineers specification documents and drawings	1	Item			
				To Collection €		

					€	c
	(50) SITE SERVICES - DISTRICT HEATING (Cont)					
A	Builderswork; forming and cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels etc. and amking good, all in accordance with Engineers specification documents and drawings	1	Item			
B	Fire stopping and other associated fire protection works; all in accordance with Engineers specification documents and drawings	1	Item			
				To Collection €		

				€	c
(50) SITE SERVICES - DISTRICT HEATING (Cont)					
COLLECTION					
Page No. Lot 8.2/57					
Page No. Lot 8.2/58					
Page No. Lot 8.2/59					
(50) SITE SERVICES - DISTRICT HEATING **Carried to Summary**					

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	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by Semple McKillop Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
				To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont) **ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS** **(50) SITE SERVICES (MAINLY MECHANICAL) - HEAT PUMPS** System External Air source Heat Pump installation, testing and commissioning; complete with all associated plant, pipework, valves, controls, insulation, frost protection, fully integrated with the building heating system; The heating system shall be flushed and provided with appropriate chemical treatment; The contractor shall provide, prior to handover, a commissioning certificate to confirm that correct treatment has been carried out; all in strict accordance with the Mechanical Engineers Specification Volume 1; Volume 2; Volume 3; Volume 4 and Drawings M-5601 Primary Equipment Air Source Heat Pump; The Contractor shall supply, install, test and commission packaged high efficiency, low noise, electric Air Source Heat Pump; complete; Heating Capacity (kW): 32.8kW; CoP (W/W): 2.7; SCoP (W/W): 3.95; Efficiency (%): 117; Compressor Type: Semi-Hermetic; Minimum Number of Compressors: 2; Source Heat Exchanger: Cu/Al pipes and fins with hydrophilic coating #Blue Fins#; User Heat Exchanger: Braze Welded Plate, Heat Exchanger (AISI 316 Stainless Steel) c/ w closed cell insulation and discharge temp sensor for anti-freeze protection; Refrigerant Type: R290; Outdoor Air Temp (øC): -3.0; Outdoor Relative Humidity (%): 80; Fluid Type: Water; In/Out Fluid Temp (øC): 50.0 / 55.0; Super Low Noise: Required; Max Fan RPM: 900 (low noise); Construction: Galvanised Sheet Steel painted with polyurenate powder enamel c/w removable panels; Control & rotection Devices: Required; Control Panel: Microprocessor based c/w display showing all operational icons and connections for MODBUS protocols; Serial Interface Card RS485: Required to allow the controller to communicate using Modbus Protocol; Head Pressure Control: This device, using a pressure probe installed on the source heat exchanger, controls the fan speed with respect to the ambient conditions; Accessories: Rubber Antivibration feet/pad, Condensate Drip Tray, Anti Freeze Kit, Pressure Gauges, Master / Slave Cascade Control system, Outdoor Air Temperature Sensor for Weather Compensation, Hydraulic Kit comprising centrifugal circulating pump c/w safety valve & fill/drain point; Defrost: Method Reverse Cycle; Defrost Control: Sensor for outdoor temperature; Warranty: 5 year parts and labour; include for all accessories; all in strict accordance with the Mechanical Engineers Equipment Schedule no. 1.1					
			To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
Warranty Requirements: The Tenderer shall ensure that all heat pump equipment supplied and installed under this contract is covered by a minimum warranty period of five (5) years post date of substantial completion.The warranty must ensure cover of:#Compressor, refrigerant circuit, heat exchangers, controls, and all major components#Labour, parts, diagnostics, and call outs for warranty repairs#No exclusions applied since operating due to typical operating profiles defined in this documentWarranty validity shall be dependent upon:#Correct system design and installation#Proper commissioning by competent personnel#Operation within the design parameters described below#Compliance with the maintenance regime set out in this section#Internet connection for continuous diagnostics (applicable to certain manufacturers)Where longer manufacturer warranties or reduced frequency service requirements are available at no additional cost, or at a cost saving, the Tenderer must include these within the tender. Service & Maintenance Requirements: The Tenderer shall allow for the minimum maintenance regime for the installed heat pump system in the tender pricing in order to maintain the 5-year warranty. Service Frequency# One service visit preferably every two (2) years, unless the equipment manufacturer explicitly requires a shorter interval (minimum one (1) year).(Tenderers shall only price for annual servicing if supported by documented manufacturer requirements.)#It is in the Tenderer#s interest to negotiate with heat pump manufacturers for longer service intervals in order to price their bid competitively."Minimum Service Scope (Biennial Visit): Each service visit must include at minimum:# Inspection and performance review of the refrigerant circuit# Verification of electrical connections and controls# Checks on hydraulic conditions (flow rates, pressures, pump performance)# Cleaning of filters, strainers, and debris screens# Cleaning of coil and fins. # Verification of correct operation, setpoints, and system sequencing# Review of system logs and operational history to confirm stable operationMaintenance must be carried out by competent personnel and appropriately recorded.Tenderers, must include all maintenance requirements to maintain the heat pump warranty for the 5 year period post substantial completion, in their tender pricing. Normal Design & Operating Parameters:For warranty purposes, #normal design conditions# refer to operation within the system#s intended thermal and hydraulic envelope, including:Project Specific OperationFor the installations considered in this project:# Systems are designed for ~55øC flow temperatures to maximise efficiency and minimise equipment stress, with the ability to operate at higher temperatures during peak demand within heat pump limits.# Backup boilers (gas/oil) will support peak loads and extreme conditions# The buildings have predictable, daytime based occupancy profiles and low annual running hours due to being schools# Heat pumps will operate predominantly during controlled and stable load conditionsThese factors result in:# Predictable and stable thermal loads# Reduced mechanical and thermal cycling# Lower probability of component stress or degradation# Improved reliability and long term warranty compliance					
			To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Tender Note # Commercial & Technical Expectations:Tenderers must base their submission on the following assumptions:# The systems are conservatively designed and operate comfortably within their capabilities# There is no reliance on electric backup# Operating conditions are stable due to predictable school occupancy profiles# A minimum 5 year warranty must be provided# Only the biennial service visit (once every two years) shall be priced into the tender unless the manufacturer requires otherwise# Tenderers are strongly encouraged to secure extended service intervals from their suppliers to improve lifecycle cost efficiency					
A	Air source heat pump Ref: ASHP-01; Location: External plant compound	1	nr			
B	Air source heat pump Ref: ASHP-02; Location: External plant compound	1	nr			
	Accessories associated with Primary Equipment					
	Isolation valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
C	65mm Stop valves	3	nr			
	Non-return valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
D	65mm Non-return valves	1	nr			
	Strainer valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
E	65mm STR Valves	1	nr			
	Non-close valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
F	65mm Non-close valve	1	nr			
	Auto-air vent valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
G	65mm Auto-air vent valve	2	nr			
	Drain cock valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
H	65mm Drain cock valve	2	nr			
	Test point valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
J	65mm Test point valves	4	nr			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Commissioning sets; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
A	65mm Commissioning set	1	nr			
	Temperature Sensor; linked to BMS; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
B	65mm Temperature Sensor	2	nr			
	Pressure Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
C	65mm Pressure Gauge	4	nr			
	Temperature Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
D	65mm Temperature Gauge	2	nr			
	Flexible connections; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
E	65mm Flexible connections	2	nr			
	Anti-frost valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Volume 2					
F	65mm Anti-frost valve	2	nr			
	Distribution					
	Pre-insulated, self-compensating, flexible heating pipework and fittings; Miniumum heat loss of 0.216W/m; Insulation: closed cell PUR foam wrapped in corrugated HD PEXa; Operating temp: 95øC; tested to 6 bar; include for all accessories; all in strict accordance with the Mechanical Engineers Specification and Drawings M-5601					
G	65mm diameter pipework	1	item			
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3, Section 1					
H	65mm diameter pipework	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Insulation					
	Foiled faced fibreglass insulation; to all new pipework services; class A1, CFC and HCFC free with ozone depletion factor of zero; Thermal conductivity not exceeding 0.04W/m2K at 100øC; all joints taped and sealed; all in strict accordance with the Mechanical Engineers Specification Part 1, Section 4.2					
	Insulation, 40mm thick					
A	to 65mm diameter pipework	1	item			
	Valve jackets provided with Velcro fixings shall be provided on all valves, flanges, pumps and heat exchangers within the plant rooms and externally. All valve jackets used on external pipework shall be weather proof; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
B	General Valve & Plant	1	item			
	Aluminium Cladding; 18mm gauge aluminium, fixed with self-tapping screws; all in strict accordance with the Mechanical Engineers Specification					
C	to 65mm diameter pipework	1	item			
D	General Valve & Plant	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
F	Testing,chemical dosing, sterilization and certification of all systems	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
H	Heat pump servicing; One service visit preferably every two (2) years, or in accordance with manufacturers requirements in order to maintain 5 year warranty.	1	item			
	Working drawings; all in accordance with Engineers Specification					
J	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
K	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
L	As built drawings	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Identification plates, labels and the like; all in accordance with Engineers Specification					
A	Identification plates, labels and the like	1	item			
	(50) SITE SERVICES - TRACE HEATING					
	System					
	Trace Heating installation, testing and commissioning; complete; Trace heating shall be installed on all the water systems where they travel externally between building blocks; Trace heating shall be provided complete with control panels and all required components to prevent system freezing. Capacity of trace heating shall maintain water temperature above 3øC when ambient temperature is -15øC. Trace heating temperature control shall prevent water temperature rising above 10øC. Trace heating system to incorporate air control thermostats and pipework safety cut out thermostats. All trace heating circuits shall be linked to BMS to provide status and fault indication on BMS; Supply electric trace heating complete with fixing tape, shrink sleeves, crimps, junction boxes and controls; all in strict accordance with the Mechanical Engineers Specification and Drawings					
	Primary Equipment					
	Trace heating control panel; all in strict accordance with the Electrical Engineers Specification					
B	Trace heating panel Location: Plant room	1	nr			
	Accessories associated with Primary Equipment					
	Self-regulating heating tape; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
C	Self-regulating heating tape	1	item			
	Air control thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
D	Air control thermostats	1	item			
	Safety cut out thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
E	Safety cut out thermostats	1	item			

To Collection €

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Insulation					
	Modified polyolefin electrical insulation; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
A	65mm diameter pipework	1	item			
B	Valves and Plant; generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.2/61					
Page No. Lot 8.2/62					
Page No. Lot 8.2/63					
Page No. Lot 8.2/64					
Page No. Lot 8.2/65					
Page No. Lot 8.2/66					
Page No. Lot 8.2/67					
Page No. Lot 8.2/68					
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS **Carried to Summary**					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	41	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	5	m			
F	Excavating existing grass and making good to match existing after excavation and drainage runs have been laid	36	m			
	Around existing services crossing excavations					
G	Storm pipe; crossing excavations	3	nr			
H	Foul pipe; crossing excavations	2	nr			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
A	ESB; crossing excavations	2	nr			
	Disposal					
B	Ground water	1	item			
C	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
D	595 x 325mm; to 2nr ducts	41	m			
	PVC Red marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 100mm above pipework	41	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
F	Continuous strip; laid during trench backfill; 300mm above pipework	41	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
G	Laid in trenches	81	m			
H	Extra over for easy sweep bends	4	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
J	Average depth not exceeding 1000mm	3	nr			
	Sundries					
K	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
A	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			
B	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
C	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
D	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
E	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
COLLECTION					
Page No. Lot 8.2/70					
Page No. Lot 8.2/71					
Page No. Lot 8.2/72					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	13	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	13	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	1	nr			
G	Foul pipe; crossing excavations	1	nr			
H	ESB; crossing excavations	1	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
C	595 x 325mm; to 2nr ducts	13	m			
	PVC Red marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	13	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 300mm above pipework	13	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
F	Laid in trenches	13	m			
G	Extra over for easy sweep bends	4	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
H	Average depth not exceeding 1000mm	2	nr			
	Sundries					
J	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			
K	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
A	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
B	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
C	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
D	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
COLLECTION					
Page No. Lot 8.2/74					
Page No. Lot 8.2/75					
Page No. Lot 8.2/76					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES					
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE LV INSTALLATIONS					
	System					
	LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-5901					
D	Site LV Installation	1	item			
	Equipment					
	Metering Switch Board; supply and installation; complete; Enclosure Type: Renely or equivalent; Cable Entry: bottom; Cable Exit: Top; complete with and including 1nr 400amp TP ABC Isolator, earth bond, ESB sealed metering cubicle, metering enclouser (to facilitate future upgarde CT metering), 2nr 400amp TP MCCB, shunt trip; surge protection; 800amp bush bars braced for 50kA AT 1s; 1nr 160amp TP MCCB, 2nr 250amp TP MCCB; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in strict accordance with the Electrical Engineers Specification Part 1, include for all accessories; all in accordance with the Electrical Specifications					
E	Metering Switch Board; Ref: REN-1; Location: External	1	nr			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Fittings					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	2	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
B	Circuit charts to switch boards; Ref: REN-1	1	nr			
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
C	Submains Ref: 5; REN-01 to MSB-1; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
D	Submains Ref: 5; REN-01 to MSB-2; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
F	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
G	Operating and maintenance manuals; complete	1	nr			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
A	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
B	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
C	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
D	Identification plates, labels and the like; complete	1	item			
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER TO HEAT PUMPS					
	System					
	Power to Heat pumps installation, testing and commissioning; complete; The electrical contractor shall provide all wiring and power supplies associated with the external heat pumps as detailed on the wiring schematic; all underground electrical services cables shall be distributed within ducts; separate underground service ducts shall be provided as part of the builders works element; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-5901					
E	Heat Pump Power Installation	1	item			
	Accessories associated with terminal equipment					
	Isolator Switch; supply and installation (including wiring); complete; c/w back boxes; all in accordance with the electrical specification					
F	Rotary Isolator; TP; 125amp; external	2	nr			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from REN-01; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 5; REN-01 to ASHP01; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
B	Submains Ref: 5; REN-01 to ASHP02; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
C	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
D	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
E	Operating and maintenance manuals; complete	1	nr			
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
F	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
G	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
H	As built drawings; complete	1	item			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
A	Identification plates, labels and the like; complete	1	item			
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE EARTHING & BONDING					
	System					
	Earthing and Bonding installation; testing and commissioning; The contractor shall undertake to effectively earth the whole of the electrical installation in accordance with the NSAI I.S. 10101: 2020+A1:2024 Regulations; Main equipotential earth bonding should be provided from each of the following items, as a minimum, to the main earthing bar: Incoming Water Main, Incoming Gas Main, Metal drainage pipes, Structural Steelwork, Main Heating Pipework, Main Ventilation Ductwork, Lightning Protection System, Comms Rooms, Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations: Metallic Wireways and Containment, Suspended Ceiling Grids, Wash Hand Basins, Showers, Sinks, WC's, Cleaners Sinks, Catering equipment, Metal worktops, Plantroom Pipework (e.g. across pumps, valves, vessels, etc.); all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
B	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
C	Main Earth Terminal Bar	1	nr			
	Earthing points c/w inspection box; earth electrodes in accordance with I.S 10101:2020; complete; all in strict accordance with the Electrical Engineers Specification					
D	Earthing Points	4	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Cables					
	Earth conductor cable; supply and installation complete; Cable size 95mm2 LSF earth; mechanically protected throughtout; all in accordance with the Electrical Engineers Specification					
A	Earth terminal bar to earth pits	1	item			
B	Switchboard to earth pits	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
C	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
E	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
F	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
G	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
H	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
J	Identification plates, labels and the like	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.2/78					
Page No. Lot 8.2/79					
Page No. Lot 8.2/80					
Page No. Lot 8.2/81					
Page No. Lot 8.2/82					
Page No. Lot 8.2/83					
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS Carried to Summary					

				€	c
SUMMARY	**Page No.**				
(10) DEMOLITIONS AND ALTERATIONS	Lot 8.2/2				
(31) EXTERNAL WALL COMPLETIONS	Lot 8.2/4				
(35) & (45) CEILING FINISHES	Lot 8.2/6				
(5-) MECHANICAL INSTALLATION	Lot 8.2/30				
(6-) ELECTRICAL INSTALLATION	Lot 8.2/52				
(30) SITE ENCLOSURES - PLANT COMPOUND	Lot 8.2/56				
(50) SITE SERVICES - DISTRICT HEATING	Lot 8.2/60				
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS	Lot 8.2/69				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP	Lot 8.2/73				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER	Lot 8.2/77				
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS	Lot 8.2/84				
Total amount carried to general summary					
Lot 8.2/1 - Lot 8.2/84.					

8.3 - Castlejordan Central NS

					€	c
	(10) DEMOLITIONS AND ALTERATIONS					
	DEMOLITION & ALTERATIONS					
	GENERAL					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYER'S REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Demolitions					
	Removing					
	Fittings and Fixtures					
B	Existing External single door and frame; approx 1000mm wide x 3160mm high; include all fittings, architrives, liners etc; diposal of all material off site	1	nr			
	Removing Finishes					
C	Existing ceiling finishes to certain locations within existing building; disposal of all materials off site; prepare ceilings to receive new finishes	26	m2			

To Collection €

				€	c
(10) DEMOLITIONS AND ALTERATIONS (Cont)					
COLLECTION					
Page No. Lot 8.3/1					
(10) DEMOLITIONS AND ALTERATIONS **Carried to Summary**					

					€	c
	(31) EXTERNAL WALL COMPLETIONS					
	METALWORK					
	Non-Structural					
	ALUMINUM DOORS INCLUDING LOUVRE DOORS; The successful contractor will be responsible for the design, supply, fabrication, and installation of the doors all in accordance with the best building practices and systems supplier#s recommendations; The contractor will be responsible for providing all proposals, drawings, samples etc required to satisfy the requirements of the tender and also to demonstrate that the contractor is competent and able to execute the works in a proper and timely manner; The contractor will be responsible but not limited to providing the design team the following documentation in advance of any works been commenced; Providing all test data covering all the proposed systems; After the contractor has been awarded the project they must provide the design team the following prior to any work commencing; A full set of detailed shop drawings showing all the relevant interfaces, systems junctions, flashing details, glass types, and indicting all the surfaces being painted; include for inbuilt screen; as per Architect's specification					
	Composite Items; Doorsets (Louvred Doors)					
A	External Single Door; overall opening size (including frame) 1000mm wide x 3160mm high; comprising 1nr louvred door size 1000mm wide x 3160mm high; complete	1	nr			
				To Collection €		

				€	c
(31) EXTERNAL WALL COMPLETIONS (Cont)					
COLLECTION					
Page No. Lot 8.3/3					
(31) EXTERNAL WALL COMPLETIONS **Carried to Summary**					

					€	c
	(35) & (45) CEILING FINISHES					
	FLOOR, WALL & CEILING FINISHES					
	Suspended Ceiling					
	Proprietary suspended ceiling system; Manufacturer: Submit proposals for Architects approval; Product reference: CasoLine MF suspended ceiling system- or equivalent to Architect#s approval; Suspension system; Hanger type: Gypframe MF8 strap hangers; Top fixings: Gypframe MF12 soffit cleats fixed to concrete soffit or metal deck; Primary grid centres: 1200 mm. Hanger centres: 900 mm; Secondary grid centres: 400 mm; Linings: 1 x 12.5 mm Gyproc WallBoard, Gyproc moistureproof green board where noted on RCP's and in a wet area; Insulation: none; Access Units: Gyproc Profilex access panels; Finishing: Taped seamless finish; Primer/ Sealer; Type: 1 coat of Gyproc Drywall Primer (2 coats where noted as moistureproof green board; Accessories: none; all as per Architects Specification					
	Ceilings; fixed below floor structure					
A	Depth of suspension 500mm - 1000mm	26	m2			
	PAINTING AND DECORATING					
	Painting					
	Emulsion paint; To internal plastered surfaces and fairfaced blockwork; Manufacturer: Submit proposals for Architects approval; Product reference: Dulux trade Diamond Matt (water based tough Scrubbable Matt emulsion); Surfaces: Internal plastered surfaces; Preparation: Tape and fill joints; Initial coats: 40% thinned primer.Thinning Sealing new or bare surfaces: Add up to 1 part clean water to 10 parts paint; Number of coats: 2; Undercoats: As recommended by manufacturer; Number of coats: As recommended by manufacturer; Finishing coats: Washable matt vinyl; Number of coats: 2; all as per Architects Specification					
	Ceilings					
B	Exceeding 300mm	26	m2			

To Collection €

				€	c
(35) & (45) CEILING FINISHES (Cont)					
COLLECTION					
Page No. Lot 8.3/5					
(35) & (45) CEILING FINISHES **Carried to Summary**					

					€	c
	(5-) MECHANICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Retaining existing LPG boiler and flu in situ and maintaining operational integration with the modified heating system; including isolation, inspection, and protection of existing connections, adaptation of pipework as required to suit revised layout, provision of new isolation valves and non-return valves (where required), fittings, supports, and associated modifications to ensure compatibility with the new system arrangement; including flushing, pressure testing, recommissioning, and full reinstatement of insulation and finishes; all works to be coordinated with associated boiler relocation and heat pump installation works; all shutdowns to be agreed in advance and carried out outside normal operating hours; all in accordance with the Mechanical Specification and Drawing M-5601	1	item			
C	Existing heating header arrangement to be retained in situ and incorporated into the revised system layout; including inspection, protection, and minor adaptation of existing pipework as required to suit new connections, provision of additional isolation valves, fittings, and supports where necessary to ensure full compatibility with proposed works; including flushing, pressure testing, and reinstatement of insulation and finishes to match existing; all works to be coordinated with associated boiler and heat pump installations; all in accordance with the Mechanical Specification and Drawing M-5601	1	Item			
D	Modification of existing gas service to accommodate installation of new gas meters (gas meter measured elsewhere), including all necessary alterations, pipework adjustments, fittings, testing, commissioning, and certification, in accordance with Engineers Specification and Drawing M-5601	1	item			
	Modification to existing BMS panel to provide additional control and metering functions as detailed on the BMS schematic; including integration of new control points, meters, sensors, and associated wiring, upgrading of panel components where required, software amendments, testing, commissioning, and coordination with mechanical services installations; making good and full reinstatement of all elements; all in accordance with the Mechanical Specification and Drawing ME5801					

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Notes					
A	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ASBESTOS REMOVAL					
	DEMOLITION & ALTERATIONS					
	General					
D	The following items are not measured in strict accordance with ARM.		note			
E	The Contractor is refered to the Pre Refurbishment & Demolition Asbestos Survey		note			
F	The Contractor must ensure that any risk of exposure to asbestos is completely eliminated. Contractor to consult with Employer's Representative before any work commences on site.	1	item			
G	The Contractor is advised that there is a notification form to be used for any work involving asbestos. This form must be submitted 28 days prior to the start of such work.	1	item			
H	The Main Contractor / PSCS must appoint a specialist asbestos removal contractor to carry out the asbestos removal & disposal works	1	item			
J	Prior to commencing any demolition or construction works on site all asbestos must be removed from site; in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010	1	item			
K	The Main Contractor / PSCS must appoint a competent independent analyst / accredited laboratory for the purpose of undertaking air sampling, project monitoring and issuing site clearance for reoccupation certification; in conformance with ISO 17025 General Requirements for the Competence of Testing and Calibration Laboratories	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Prior to commencing the asbestos removal works the specialist contractor shall submit (to the PSDP & Employer's Representitive) their Plan of Work (risk assessment / method statement), Design Risk Assessment, and temporary works certificates for the Asbestos Removal works (at least 21 days in advance of commencing the asbestos removal works)	1	item			
B	Prior to commencing the asbestos removal works the specialist contractor shall submit their Plan of Work (risk assessment / method statement), and notify, to the HSA (at least 14 days in advance of commencing the asbestos removal works). The PSCS must also ensure that copies of the notifications are forwarded to the PSDP, Client & Project Manager	1	item			
C	No works may take place on site until the Plan of Work has been drawn up and approved by the Main Contractor / PSCS	1	item			
D	No deviations shall be permitted from the plan of work submitted to the HSA	1	item			
E	Should the Plan of Work require amending / updating (for whatever reason) it must be issued to the PSDP & Project Manager in the first instance, and then the HSA, prior to proceeding with any proposed changes	1	item			
F	No asbestos removal works may take place in areas occupied by normal construction / project personnel and / or third parties	1	item			
G	An asbestos site clearance for reoccupation certificate(s) must be supplied (by the competent independent analyst / accredited laboratory) to the PSDP & Project Manager prior to commencing any demolition or construction works on site (other than the asbestos removal works); the certificate(s) must include (1) Visual inspection, (2) Air monitoring and (3) The decontamination unit	1	item			
H	After completing Asbestos Removal works the PSCS must ensure that asbestos site clearance for reoccupation certificates are issued to the Project Manager, PSDP, and Client PRIOR to allowing those areas to be opened up to persons (other than those persons directly involved in the asbestos removal works)	1	item			
J	NO Asbestos Containing Waste Material may be removed from the site unless a Waste Transfer Form (removal of Hazardous Waste Material from Site) has been completed and issued to the PSCS / Main Contractor, the PSDP & Project Manager	1	item			
K	The PSCS / Main Contractor must forward copies of final disposal certificates (i.e. completed Waste Transfer Form (final disposal of Hazardous Waste Material)) to the PSDP & Project Manager	1	item			
L	The PSCS / Main Contractor must forward, the following information (as applicable) to the PSDP, for inclusion in the Safety File; Bulk sample results, Amended Asbestos Register, Preliminary Safety & Health Plan and Specification, Specialist asbestos removal contractor Plan of Work, Notification to the Health and Safety Authority, Air monitoring results prior to removal works commencing, Air monitoring results during removal works, site clearance for reoccupation certificates, Completed Waste Transfer Form for the final disposal of all asbestos / hazardous waste.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	All asbestos works must be carried out in accordance with; The HSA 2010 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001, The Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010, The HSA Guidelines on Working with Materials Containing Asbestos Cement (and any subsequent amendments updates to HSA Guidelines and / or Codes of Practice)	1	item			
B	Contractor to include here (Unless included in rates elsewhere) for protection of all fixtures, fittings and finishes to all areas in which asbestos removal occurs	1	item			
	Alterations					
C	The Contractor must note that the safe and proper removal and disposal of all asbestos material is the Contractor's full responsibility and therefore the contractor's price/rates must include for all work in connection with same; no claims on the grounds of want of knowledge will be entertained whatsoever.	1	item			
	Removing Finishes; Asbestos Material					
D	Submit Plan of Work and 14 day prior notification to the Health & Safety Authority	1	item			
E	Setup Decontamination Unit & Form Enclosures	1	item			
F	Specialist removal and disposal of asbestos-containing valves in accordance with all relevant safety and environmental regulations.	1	item			
G	Environmental clean to achieve clearance certification	1	item			
H	Asbestos Removal & Disposal Certificates	1	item			
J	INAB Accredited Asbestos Clearance Certification					
K	Reassurance Air Monitoring and Re-occupation Clearance Certification by an Asbestos Consultant	1	item			
				To Collection €		

(5-) MECHANICAL INSTALLATION (Cont)

ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS

(51) HEATING CENTRE

System

Heating center installation, testing and commissioning; consisting of 2nr ASHP (Primary heating source) and 1nr exisitng LPG gas fired condensing boilers (secondary heating source) serving radiators throughout the building; the installation shall include a pressurisation unit, expansion vessel, pipework, shunt pumps and all associated valves; the existing header and on floor distribution pipework to be retained and reused; existing flow rates to be recorded prior to works and re-established at the end of the works; The heating system shall be flushed and provided with appropriate chemical treatment; Commissioning results including a flue gas analysis shall be provided for the boilers prior to handover, along with a statement by the manufacturer/supplier confirming their correct and efficient operation; all in strict accordance with the Mechanical Engineers Specification Part 1; Part 2; Part 3; Part 4 and Drawings M-5601

Accessories associated with Primary Equipment

Stop valves for isolation of LPHW pipework up to 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3

A	22mm Stop valves	2	nr		
B	50mm Stop valves	13	nr		
C	55mm Stop valves	3	nr		

Non-return valves; include for all accessories and fittings; all in strict accordance with Engineers Specification Part 3

D	22mm Non-return valves	3	nr		
E	50mm Non-return valves	2	nr		
F	55mm Non-return valves	1	nr		

Lock Shield Valve; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3

G	22mm Lock shield valve	2	nr		

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Angle Pressure Released Safety Valve; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Engineers Specification Part 3					
A	55mm safety valve	1	nr			
	Strainer valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
B	50mm Strainer Valves	3	nr			
	Auto Air Vents; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
C	22mm AAV Valve	1	nr			
	Temperature Sensors; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
D	50mm Temperature sensor	7	nr			
E	55mm Temperature sensor	3	nr			
	Temperature Gauges; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
F	50mm Temperature Gauges	4	nr			
G	55mm Temperature Gauges	1	nr			
	Pressure gauge; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
H	50mm Pressure gauge	2	nr			
J	55mm Pressure gauge	1	nr			
	Flexible connections; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
K	50mm Flexible connections	3	nr			
	Commissioning Sets; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
L	50mm Commissioning Set	2	nr			
	Flushing Bypass; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
M	50mm Flushing Bypass	2	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Sensor Flow; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
A	50mm Sensor Flow	2	nr			
	Circulation Pump; supply and installation; complete; Description: Single head, canned-rotor type c/w integral variable speed control & BMS connectivity; Power: 230C/1ph/50Hz; Pump Housing Material: Stainless Steel; Impeller Material: PES 30% GF; Maximum Operating Pressure: 10 bar; Enclosure Class: X4D; Insulation Class: F; Energy (EEI): 0.18; Compliance: Declaration of Performance / CE Certification; See Part 3: Standard Clauses; for appropriate standards; ERP Directive (2009/125/EC); EU Regulation (813/2013); Energy Labelling Framework; Regulation (EU) (2017/1369); EU Regulation (811/2013); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.5					
B	Pump LPHW, Ref: PMP01; Flow rate: 3.47 l/s; Head: 50kPa	2	nr			
	Circulation Pump; supply and installation; complete; Description: Twin head, canned-rotor type c/w integral variable speed control & BMS connectivity; Power: 230C/1ph/50Hz; Pump Housing Material: Cast Iron; Impeller Material: Cast Iron; Maximum Operating Pressure: 10 bar; Enclosure Class: X4D; Insulation Class: F; Energy (EEI): 0.17; Compliance: Declaration of Performance / CE Certification; See Part 3: Standard Clauses; for appropriate standards; ERP Directive (2009/125/EC); EU Regulation (813/2013); Energy Labelling Framework; Regulation (EU) (2017/1369); EU Regulation (811/2013); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.5					
C	Pump LPHW, Ref: PMP01; Flow rate: 0.8 kg/s; Head: 4kPa	1	nr			
	Pressurisation Unit; supply and installation; complete; Description: Floor Standing LPHW Pressurisation Unit, Pumps: Twin.; Breaktank Connection: #AB# air gap to water supply; Max Working Pressure: 10 Bar; Connectivity: Volt Free Contacts required for High/Low level fault output to BMS; Digital Display: Required c/w password protection; Independent High / Low Pressure Alarm: Hard-wired; Auto Fill Capacity: Required; Standards/ Conformity: ISO 9001, BSEN 60204 Part 1, WRAS approved, IMQ & VDE Standards, PED, EMC Directives; Expansion Vessel: See drawings; Max. Working Pressure of Expansion Vessels: 10 bar; Pressurisation unit to supply common fault signal to BMS, Pressurisation unit c/ w high & low pressure trip, Quick fill loop to be included as part of installation; all in strict accordance with the Mechanical Engineers Equipment Schedule 1.8					
D	Pressurisation Unit; Ref: PRU001; Location: Plant room	1	nr			

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Buffer Vessel; supply and installation complete; Description: Direct Heating Vertical Buffer Vessel; Storage Capacity: refer to drawing; Material: Mild Steel Construction with exterior paint; Max. Temperature: 99øC; Max. Working Pressure: 3 bar; Max.; Connections: See schematic; Insulation: 550mm soft polyester fibre insulation with high Thermal insulation to ErP class B or C, Fire Class: B-s2do to EN 13501; Warranty: 5 years; Accessories: Access hatch, Temperature Gauge, Pressure Gauge, Temp/Pressure, Safety Valve & tundish, Immersion Pockets 200mm deep min; Compliance: Declaration of Performance / CE Certification PED 2014/68/ EU; all in strict accordance with the Mechanical Specification Part 4, Section 1.4					
A	Buffer vessel; Ref: BUF001	1	nr			
	Chemical dosing pot; supply and installation; complete; Capacity: 11 litres; Construction: Mild steel, welded; Mounting: Wall mounted c/w wall mounting brackets; Finish: powder coated; Minimum Output: 1 kW; Connection Details: Tundish, 1# fill valved connection, 1# drain valved connection, 1# flow valved connection, 12 return valved connection, Air vent Connection Sizes 1#; Typical Height: 880 mm; Typical Diameter: 200 mm; Weight: 16.5; c/w foot valve; chemical drum; Cleansing; Corrosion inhibitor and wall mounting brackets; include for all accessories and fittings; all in strict accordance with the Mechanical Equipment Schedule 1.7					
B	Chemical dosing pot	1	nr			
	Expansion Vessel; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
C	Expansion Vessel	1	nr			
	Hydraulic Low Loss Header; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
D	Hydraulic Low Loss Header	1	nr			
	Description Heat meter; Media LPHW; Visible Display Digital; Pulse Output Requirements; Switch type - reed; Contacts - VFC; Pulse value # 1 kw/h per pulse; Load current - 500mA; Max switch voltage - 180 Vdc; Contact rating # 10W; Flying lead - 2m; Requirements - Class 2 Ultrasonic flow sensor - Calculator with integral hardware and software for measuring flow rate, temperature and energy consumption - Temperature sensors - Pulsed Input interface card for water sub-metering- Remote reading via M-Bus or similar interface - Power save mode - 24 month memory - Extensive diagnostic displays; Connection Type As per Part 3: Standard Clauses; Inline Strainer Required; Installation Positions Horizontal & vertical; Max Pressure 16 Bar; Media Temperature 1 oC # 90/130oC; Operating Temperature 1 oC # 90/130oC; Compliance Declaration of Performance/CE Certification, IS EN 14154, MID (Measuring Instrument Directive) 2004/22/, EC, CEN EN 1434 (2007) and OIML R5 (2002); all in strict accordance with the Mechanical drawing and Specifications documents Volume 3 - Equipment Schedules 2.4					
E	Heat Meter	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Distribution					
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3					
A	22mm diameter pipework	1	item			
B	50mm diameter pipework	1	item			
C	65mm diameter pipework	1	item			
	Heating Distribution pipework up to and including 80mm shall be Copper to IS EN 1057; include for all fixings All fittings employed on copper pipework systems shall be of the nondezincifiable quality. Soldered joints shall be in accordance with HVCA TR7 #Guidance on Soft Soldering for Pipe Jointing Copper# using lead free solder. On sizes 54 mm and below joints shall be made with capillary fittings to IS EN 1254 using lead free solder. On condense, boiler feed and boiler blow down systems an approved silver brazing alloy to IS EN 1044 shall be used. At dismantling points, unions, or flanged joints as appropriate shall be used. For connections to all appliances and on drainage pipework, joints shall be made with compression fittings to EN 1254 Part 2 or 2051 Part 1 as appropriate; all in strict accordance with the Mechanical Engineers Specification Part 4					
D	22mm diameter pipework	1	item			
E	50mm diameter pipework	1	item			
F	55mm diameter pipework	1	item			
	Insulation					
	Phenolic preformed section insulation; to LTHW services pipes; Thermal conductivity shall not exceed 0.042 Wm2K at 100oC; All insulation shall be fitted in accordance with the manufacturer#s instructions. All heating and plumbing pipework, valves and ancillary equipment within the plant room and external plant compound shall be insulated and aluminum hammer clad to provide mechanical protection; All insulation shall be Class A1, CFC and HCFC free with ozone depletion factor of zero; include for all accessories; all in accordance with the Mechanical Engineers Specification Part 4					
	Insulation, 15mm thick					
G	to 22mm diameter pipework	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Insulation, 40mm thick					
A	to 50mm diameter pipework	1	item			
B	to 55mm diameter pipework	1	item			
	Insulated cover boxes; aluminium split casing c/w spring clip fasteners, 35mm thick insulation lining; sized to suit valve; vapour sealed; all in accordance with Engineers Specification Part 4					
C	General valves	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
E	Testing,chemical dosing, sterilization and certification of all systems	1	item			
F	Completion of heat meter commissioning reports	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
H	Filter maintenance; allow for 3 visits to site after completion for filter cleaning	1	item			
	Working drawings; all in accordance with Engineers Specification					
J	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
K	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
L	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
M	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(52) DRAINAGE AND REFUSE DISPOSAL					
	System					
	Soils and Waste Drainage Installation, testing and commissioning; complete; The complete installation of all above ground foul water drainage and refuse disposals; The Mechanical Contractor shall also be responsible for removal from storage and carriage to the position, erection of each item and all connections to and from the sanitaryware as detailed on the drawings and within this specification; all in strict accordance with the Mechanical Engineers Specification					
	Distribution System					
	Condensate pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work; all in strict accordance with the Mechanical Specification					
A	28mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
B	32mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(54) GAS DISTRIBUTION - LPG GAS SERVICES					
	System					
	LPG Gas distribution; installation testing and commissioning; The school building will be fed from a new incoming LPG gas supply; The contractor shall allow for liaising with the gas supplier regarding coordination of works and certification of the site gas pipework and tank installation; LPG installation shall be installed in compliance with IS3213; all in strict accordance with the Mechanical Specification Part 1, Part 2, Part 3 and Part 4					
	Accessories associated with Primary Equipment					
	Isolation Valves; isolation of gas services pipework; include for all accessories; all in strict accordance with the Mechanical Specification Part 3					
A	40mm Stop valves	4	nr			
	Gas Meter; Low pressure drop turbine gas meter; Gas meter to have volt free contacts for connection to the BMS; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
B	Gas Meter	2	nr			
	Distribution System					
	Galvanised Medium Grade Mild steel pipework and fittings; include for all fixings and supports, elbows,expansion bellows; unions and tees necessary to complete works; Painted with two coats of yellow ochre paint; pipework run in ceiling voids; all in strict accordance with the Mechanical Specification Part 3					
C	40mm diameter pipework	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
E	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
F	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
G	Co-ordination drawings	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like	1	item			
	(58) FIRE PROTECTION INSTALLATION					
	System					
	Fire Fighting installation, testing and commissioning; complete; Hand held fire extinguishers and fire blankets shall be provided throughout the building as detailed on the drawings; The installation will comply with BS 5306-2000-Part 8; The Contractor shall be responsible for carrying out the commissioning of the portable fire extinguishers before they are installed; all in strict accordance with the Mechanical Specification					
	Terminal equipment and Fittings					
	Fire Extinguishers supply and installation; complete with 5 years guarantee, CE approved and marked; all in accordance with the Mechanical Specification					
C	5KG CO2 Gas Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
D	5kg ABC Dry Powder Fire Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like	1	item			
	MECHANICAL INSTALLATIONS					
	Sundries & Builders Work					
	General Attendances					
C	Provide all general attendances in accordance with Arm 4 .	1	item			
D	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
E	Provide use of the Main Contractors scaffolding.	1	item			
F	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
G	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
H	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
J	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Mechanical services works, including testing and commissioning , and pay all ongoing operation charges.	1	item			
K	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
L	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
M	Provide temporary telephone services to the Mechanical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
N	Include for unloading, hoisting/cranage and placing into position all items of heavy plant and site offices supplied by the sub-contractors.	1	item			
P	Allow for maintaining all ducts, chases, trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
B	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
C	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
D	Provide all special attendances in accordance with Arm 4 Clause 3.1	1	item			
E	Provide temporary roads and hardstandings in connection with heavy items of plant and the like.	1	item			
F	Provide accommodation for the sub-contractor's staff for eating, site lavatories, site washing facilities, and cloaks.	1	item			
G	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
H	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
J	Provide temporary distribution systems for lighting, power, water for the execution of the electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
K	Provide the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
L	Protection of the works the Main Contractor is responsible for providing adequate protection at all times for the Mechanical services installation.	1	item			
M	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day.	1	item			
N	Provide external access to high level on building facade to permit the installation of any external equipment/fittings and for the removal of existing services as required.	1	item			
P	Provide Mobile Elevated Working Platforms (MEWP) or scaffolding for Mechanical sub-contractors working at high level.	1	item			
Q	Provide for weathering & sleeving around all penetrations through the external structure of the building and to allow for sealing to fabric to maintain air tightness.	1	item			
R	Allow for maintaining all ducts, chases, trenches, trunking etc, clean and free of all water, debris and rodents at all times.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Allow for making good and fire sealing of all builders work opes with proprietary sealant to architects details, where services penetrate fire zones.	1	item			
B	Allow for coordination with local authorities and utility providers in respect of application for connections, providing excavation of roads and full coordination with various utility companies.	1	item			
C	Coordinate with Mechanical Contractor to facilitate fitting of all sanitary ware.	1	item			
D	Allow for patrices behind ceiling tiles and ceilings for the support of light fittings, grilles, smoke detectors, sensors etc.	1	item			
E	Allow for weathering details on all services passing through external envelope.	1	item			
F	Allow for all service / utility entries into building.	1	item			
G	Allow for clearing away and disposal of any rubbish.	1	item			
H	Provide safe access to roofspace to facilitate Mechanical installation work.	1	item			
J	Making good of opes for fire smoke dampers.	1	item			
K	Provide and maintain the specific temperatures and humidity levels.	1	item			
L	Contractor to provide for the construction of a walkway within the Attic space for service and maintenance of water and ventilation services.	1	item			
M	Contractor to ensure all existing services shut downs for connecting in new and changeovers shall be carried out between 10pm on a Sunday Night and 6pm on a Monday morning, to avoid any interruptions of the running of the existing school; times to be agreed with school management.	1	item			
N	Provide plywood protective cover over boiler for protection.	1	item			
	Unload, hoist distribute, and place in position the following items of plant and equipment:					
P	Gas boiler	1	item			
Q	Heat pumps	1	item			
R	Pumps	1	item			
	Sundries & Builders Work					
	General					
S	Marking positions of holes, mortices and chases	1	item			
T	Testing & Commissioning	1	item			
U	Preparing drawings of "as completed" installations	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
B	Keys, tools and spares	1	item			
	In-situ concrete; plain; to IS EN 206; Grade C30; formwork to sides of platform, powerfloating finish; all in strict accordance with the Engineers Drawings and Specification					
	Bases					
C	Size 850mm x 1650mm x 100mm thick	1	nr			
D	Size 1850mm x 1100mm x 100mm thick	1	nr			
E	Size 2650mm x 1850mm x 100mm thick	1	nr			
	Equipment supports; provide mounting grounds for the installation of the following fittings; making good structure and finishes; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
	Equipment supports					
F	Provide wall fixings for portable fire extinguishers to walls at 1500mm above floor	2	nr			
	Forming or cutting holes; including sleeves/plates, making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
G	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
H	cutting or forming opes is deemed to include the making good and sealing of the ope around the pipe or duct		note			
	For ducts/pipes through exisitng external cavity blockwork wall, include for building in sleeves; weather proofing, making good all finishes on completion					
J	Size 1000mm x 250mm opes	1	nr			

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification and Drawings					
	Special works were services pass through structures; external walls, making good all finishes on completion					
A	Size 1000mm x 250mm opes	1	nr			
				To Collection €		

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.3/7					
Page No. Lot 8.3/8					
Page No. Lot 8.3/9					
Page No. Lot 8.3/10					
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Page No. Lot 8.3/21					
Page No. Lot 8.3/22					
Page No. Lot 8.3/23					
Page No. Lot 8.3/24					
(5-) MECHANICAL INSTALLATION **Carried to Summary**					

					€	c
	(6-) ELECTRICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Existing ESB Meter; safe isolation, disconnection, decommissioning and removal of the existing ESB meter installation associated with the school#s main switchboard; Trace and identify the incoming ESB supply cable from the intake point to the main switchboard; Works shall include full coordination with ESB Networks and compliance with all statutory requirements; making good all disturbed finishes; all in strict accordance with Electrical Specification and Drawing E-6000					
C	Alterations to existing switch board MDB-1 to facilitate the installation of new 150A TP&N sub-mains connection (sub-main cable & TP&N device measured elsewhere); allow for safe isolation and disconnection of existing sub-mains and disposal off site; modify existing DB as required to accommodate the new connection; Include all isolation, shutdown coordination, and commissioning; all in strict accordance with Electrical Specification and Drawing E-6000	1	item			
	Notes					
D	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
E	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
F	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			

(6-) ELECTRICAL INSTALLATION (Cont)

ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES

(61) ELECTRICITY SUPPLY & MAIN DISTRIBUTION - LV INSTALLATIONS

System

LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000

A	LV Installations	1	item		

Equipment

Main Switch Distribution Board; supply and installation; complete; Enclosure Type: Form 4B Type 2; Material Body: Electro galvanised iron-phospated steel plate; Frame: 2.5mm thick steelwork, Doors/covers: 2mm steelwork, Finish: epoxy self etching filler primer undercoat, 2nr stove enameled synthetic paint finishing coats; Colour: Light grey, RAL 7035, powder lacquered; Cable Entry: bottom; Cable Exit: Top; IP Rating: IP54; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; HOA switches, Integral isolating switches, CTU's, open/closed contractors; remote key switches, phase indicator lamps, time clocks, metering, surge protection, space for future power factor correction equipment and automatic changeover; earth terminal; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in accordance with the Electrical Project Particular Specifications and Drawing E-6000

B	Distribution board; Ref: MDB-2; Location: Switch room	1	nr		

Fittings

C	Isolation device; supply and installation; complete; terminating of incoming and outcoming cabling; all in accordance with the Electrical Specifications				
D	Isolation device; 150A TPN	2	nr		

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	3	nr			
	Rubber Mat; supply and installation; complete; The contractor shall supply and install a suitable slim rubber mat for each LV switchboard complying with BS 91 - 1976 adjacent each switchboard. The mat shall be 1 metre wide and shall run the complete length of the main switchboard and shall be fixed securely to avoid potential trip hazards; all in accordance with the Electrical Specifications					
B	Insulated matting; Ref: MDB-1, Existing	1	nr			
C	Insulated matting; Ref: MDB-2	1	nr			
	Main switchboard circuit chart; 'A1' framed drawing of the switchboard to be installed within the switch room; the drawing shall be framed with a perspex cover; include for all accessories; in strict accordance with the Electrical Specification					
D	Main switchboard; Ref: MDB-1	1	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
E	Circuit charts to switch boards; Ref: MDB-2	1	nr			
	Health Safety & Shocks Chart; the contractor shall provide an 'Electrical Review' First Aid Chart, 508 mm x 381 mm, wall chart of Instructions for Dealing with Electric Shock, located alongside each LV switchboard, These shall be printed in red and black, sheathed in plastic; all in accordance with the Electrical Specifications					
F	Health Safety & Shocks Chart	1	nr			
	<u>Mains and Sub-mains cables</u>					
	Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
G	Submains Ref: 5; REN-01 to MSB-1; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
H	Submains Ref: 5; REN-01 to MSB-2; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 4; MSB-02 to ASHP01; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
B	Submains Ref: 4; MSB-02 to ASHP02; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Specification					
C	General earthing and bonding	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
E	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
F	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
G	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
H	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
J	Identification plates, labels and the like	1	item			
				To Collection €		

(6-) ELECTRICAL INSTALLATION (Cont)

(62) POWER - CONTAINMENT

System

Cable ladder/ tray/ trunking installation, testing and commissioning; complete; The Contractor must allow for the supply and installation of a complete cable support system using cable tray, trunking, conduit and support steelwork as shown on the drawings and as detailed in the specification. The Contractor shall include for all incidental cable containment which may not be shown on the drawings but which may be required to effect cable routes to individual items of equipment, luminaires etc; include for all joints, fixing brackets and supports; all exposed and extraneous conductive parts are to be boned and properly earthed in accordance with current wiring regulations; all in accordance with the Electrical Engineers Specification and Drawings ME-5003

A	Cable Tray; Submains; heavy duty galvanised steel; size 200mm wide x 60mm high; complete	1	item		
B	Cable Basket; CAT 6A cable; heavy duty galvanised steel; size 300mm x 65mm wide; complete	1	item		
C	Conduit; galvanised steel; size 25mm diameter; complete	1	item		
D	Conduit; galvanised steel; size 50mm diameter; complete	1	item		
E	Conduit; flexible steel; size 25mm diameter; complete	1	item		

General Earthing and Bonding

General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification

F	General earthing and bonding	1	item		

General

Testing and commissioning; all in accordance with Engineers Specification

G	Testing and commissioning; complete	1	item		

Operating and maintenance manuals; all in accordance with Engineers Specification

H	Operating and maintenance manuals; complete	1	item		

Working drawings; all in accordance with Engineers Specification

J	Working drawings; complete	1	item		

Co-ordination drawings; all in accordance with Engineers Specification

K	Co-ordination drawings; complete	1	item		

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like; complete	1	item			
	(62) POWER - GENERAL SERVICES					
	System					
	General Services and small power installation, testing and commissioning; complete; to include vampire load design strategy; all in accordance with the Electrical Specification and Drawings ME-5801					
C	General Services Installation	1	item			
	Accessories associated with terminal equipment					
	Isolation device; supply and installation (including wiring); complete; surface mounting; include for all accessories and fixings; c/w galvanised steel back boxes; include for all accessories and fixings; all in strict accordance with the Electrical Specification					
D	16amp SPN Isolator	10	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
H	Working drawings	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with Engineers Specification					
A	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
B	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
C	Identification plates, labels and the like	1	item			
	(65) PROTECTIVE SERVICES - EARTHING AND BONDING					
	System					
	Earthing and Bonding; installation; testing and commissioning; The Electrical Contractor shall supply, install, test and commission a complete earthing and bonding system in accordance with the Electricity Supply Company requirements, current best practice, I.S. 10101, this Specification and Drawings. The Electrical Contractor shall form an equipotential zone in the building to provide protection against indirect contact, by bonding all extraneous and exposed conductive parts to the main earth terminal; all in accordance with the Electrical Engineers Specification and drawing E-6000					
D	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
E	Main Earth Terminal Bar	1	nr			
	Main earth conductor cable; supply and installation complete; 95mm2 LSF green/ yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
F	Earth terminal bar to earth pits	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Main earth conductor cable; supply and installation complete; Cable 95mm2 LSF green/yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
A	From MSB-2 to earth terminal bar	1	item			
	Main equipotential earth bonding; Cable: 95mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
B	Incoming Water Main	1	item			
C	Incoming Gas Main	1	item			
D	Metal drainage pipes	1	item			
E	Structural Steelwork	1	item			
F	Main Heating Pipework	1	item			
G	Main Ventilation Ductwork	1	item			
H	Lightning Protection System	1	item			
J	Lift shaft steel work	1	item			
K	Eircom DP	1	item			
	Main equipotential earth bonding; Cable: 16mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
L	Earth terminal bar to Comms cabinets	1	item			
	Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations; all in accordance with the Electrical Engineers Specification					
M	Metallic Wireways and Containment	1	item			
N	Suspended Ceiling Grids	1	item			
P	Wash Hand Basins	1	item			
Q	Showers	1	item			
R	Sinks	1	item			
S	WC's	1	item			
T	Cleaners Sinks	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Catering equipment	1	item			
B	Metal worktops	1	item			
C	Plant room Pipework	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
D	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	(65) SECURITY & PROTECTION - SURGE PROTECTION					
	System					
	Transient & Over voltage Protection installation, testing and commissioning; TSurge Protection Devices (SPDs) shall be installed in switchboards and distribution boards as described below to suppress over voltages and transients due to network disturbances and or lightning strikes. Class 1 & 2 SPDs shall be fitted to each main switchboard at supply the intake point. Class 2 SPDs shall be fitted downstream at each local distribution board. These units shall be rail mounted within a dedicated compartment of the switchboard or distribution board. SPDs shall comply with IEC/EN 61643 11:2012 guidelines; all in accordance with the Electrical Engineers Specification and Drawing E-6000					
A	Transitent & Overvoltage Protection	1	item			
	Fittings					
	Surge Suppression Devices; installation (including wiring); complete; all in strict accordance with the Electrical Engineers Specification					
B	Surge Protection Type 1; REN-1	1	item			
C	Surge Protection Type 3; MDB-2	1	item			
D	Surge Protection Type 3; MDB-1 submains	1	item			
E	Surge Protection Type 3; MDB-2 submains	1	item			
F	Surge Protection Type 3; ASHP01 submains	1	item			
G	Surge Protection Type 3; ASHP02 submains	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
H	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
J	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
K	Operating and maintenance manuals	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Working drawings; all in accordance with Engineers Specification					
A	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
B	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
C	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
D	Identification plates, labels and the like	1	item			
	(68) BMS WIRING INSTALLATIONS					
	System					
	BMS Wiring Installation; testing and commissioning; complete; Electrical Contractor must provide and issue as installed drawings for all electrical cabling associated with mechanical services. All wiring for mechanical services must be carried out under this contract to include wiring for heating, ventilation etc. The wiring to all mechanical devices must be taken from dedicated MCC (motor control center) panels supplied as a 'Free Issue' item by the Mechanical Contractor as part of the BMS installation, and must be installed and connected up by the electrical contractor. Generally, the MCC panels must be installed in boiler houses, plant rooms, etc.; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
E	BMS Wiring Installation	1	item			
	Fittings					
	BMS final connections and wiring installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV / control wiring cables fed from the BMS panel (Location: exisitng school plant room) to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Electrical Engineers Specifications and Drawing ME-5801					
F	Point 007; Pressurissation unit supply (PU1)	1	nr			
G	Point 008; High/Low level Fault	1	nr			
H	Point 009; LPHW (P1) - Primary circuit	1	nr			
J	Point 010; Enable/ Fault	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 011; LPHW (P2) - Mobile Cabin Circuit	1	nr			
B	Point 012; Enable/ Fault	1	nr			
C	Point 013; LPHW (P3) - Main School	1	nr			
D	Point 014; Enable/ Fault	1	nr			
E	Point 015; LPHW (P4) - PE Hall	1	nr			
F	Point 016; Enable/ Fault	1	nr			
G	Point 019; Heat meter supply - Boiler	1	nr			
H	Point 020; Heat meter pulsed signal	1	nr			
J	Point 021; Heat meter supply - Heat Pump	1	nr			
K	Point 022; Heat meter pulsed signal	1	nr			
L	Point 026; ASHP primary flow immersion temp sensor	1	nr			
M	Point 027; ASHP primary return immersion temp sensor	1	nr			
N	Point 028; ASHP flow high limit stat	1	nr			
P	Point 029; Boiler primary flow immersion temp sensor	1	nr			
Q	Point 030; Boiler primary return immersion temp sensor	1	nr			
R	Point 031; Boiler flow high limit stat	1	nr			
S	Point 038; LPHW buffer vessel temp sensor	1	nr			
T	Point 039; LPHW buffer outlet flow temp sensor	1	nr			
U	Point 040; LPHW buffer outlet return temp sensor	1	nr			
V	Point 044; Mains water incoming meter (pulsed signal)	1	nr			
W	Point 045; LPG gas meter boiler supply (pulsed signal)	1	nr			
X	Point 046; Run on timer - circuit 1	1	nr			
Y	Point 047; Run on timer - circuit 2	1	nr			
Z	Point 048; Run on timer - circuit 3	1	nr			
AA	Point 049; Modbus interface to ASHP01	1	nr			
BB	Point 050; Modbus interface to ASHP02	1	nr			
CC	Point 042; Electrical switchboard meters (MODBUS)	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 043; Future - power & control cable to temp stats	1	nr			
	Final Circuits (including all points terminations)					
	Final Circuits; installation, testing and commissioning; Complete; Final circuits shall be fed from local sub-distribution board; Installation: Sub-circuit wiring 4c 2.5mm2 LSZH & 2.5 CPC; shall be drawn in concealed galvanized steel conduit and/or galvanized steel trunking; all in accordance with the Electrical Engineers Specification and Control points schedule					
	Final Circuits - Existing BMS Panel					
B	Power - Pressurisation Unit (PU1)	1	nr			
C	Power - LPHW (P1) - Primary Circuit	1	nr			
D	Power - LPHW (P2) - Mobile Cabin Circuit	1	nr			
E	Power - LPHW (P3) - Main School	1	nr			
F	Power - LPHW (P4) - PE Hall	1	nr			
G	Power - Heat meter supply - Boiler	1	nr			
H	Power - Heat meter supply - Heat Pump	1	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
J	General Earthing and Bonding; complete		item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers Specification Documents					
K	Testing and commissioning; complete		item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers Specification Documents					
L	Operating and maintenance manuals; complete		item			
	Working drawings; all in accordance with the Electrical Engineers Specification Documents					
M	Working drawings; complete		item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with the Electrical Engineers Specification Documents					
A	Co-ordination drawings;complete		item			
	As built drawings; all in accordance with the Electrical Engineers Specification Documents					
B	As built drawings; complete		item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers Specification Documents					
C	Identification plates, labels and the like; complete		item			
	ELECTRICAL INSTALLATIONS					
	Sundries and Builders Work					
	General Attendances					
D	Provide all general attendances in accordance with Arm 4.	1	item			
E	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
F	Provide use of the Main Contractors scaffolding.	1	item			
G	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
H	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
J	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
K	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
L	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
M	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
N	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
P	Include for unloading, hoisting/cranage and placing into position all items of heavy plant supplied by the subcontractors.	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Allow for maintaining all ducts, chases , trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
B	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
C	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
D	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
E	Provide all special attendances in accordance with Arm 4 Work Section B Clause 3.1	1	item			
F	Provide temporary access roads and hardstanding in connection with heavy items of plant and the like, forming part of the site establishment works	1	item			
G	Provide scaffolding internal and external to the building to facilitate installation of high-level electrical services during the contract	1	item			
H	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
J	Provide adequate barriers/tape/signage of exclusion zoning in relation to use of access equipment and ACOPs for working at height	1	item			
K	Provide construction signage (internal and external) in relation to M&E services e.g live systems etc.	1	item			
L	Provide temporary lighting and power in accordance with IS10101 Wiring Regulations.	1	item			
M	Provide protection to all M&E services installations installed during the works including protection against debris and water ingress	1	item			
N	Provide fire stopping to all electrical services on the vertical and horizontal planes throughout the entire buildings	1	item			
P	Ensure close coordination during the building phase to ensure electrical, ventilation and mechanical services are installed and integrated within the building fabric as designed.	1	item			
Q	Provide grounds and fixings for suspension of Electrical services; Electrical loading = 10kg/m Mechanical loading = 40kg/m	1	item			
R	Provide boxing out of containment and pipework as necessary, boxing to be accessible with screwed access.	1	item			
S	Main contractor shall employ a full time M&E Co-ordinator for the duration of the contract works and their duties shall include but not limited to details set out within the specification A2.4 Part 1 of 4 particular specification document	1	item			

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Contractor shall be aware that drawings are indicative only including the minimum ope sizes; It will be the contractors responsibility in conjunction with their in-house M&E services coordinator to produce construction stage builders works drawings for DT comment	1	item			
B	Provide safe access and task lighting for electrical sub-contractor to all sections of school roofspace	1	item			
C	Provide safe access for electrical sub-contractor to all sections of the site	1	item			
D	The M&E installation within the SEN accommodation is to be a fully recessed installation. The contractor shall include for casting in of all electrical services and recessing of all radiators within the wall panels	1	item			
E	Seal all incoming services to prevent ingress of vermin	1	item			
F	Fire Stopping to all services penetrations throughout	1	item			
G	Attendance to electrical sub-contractor	1	item			
H	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
J	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
K	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
L	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
M	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
N	Provide temporary power supplies (3 phase 400V and maximum loading 15kVA) for welding, handtools, and for commissioning, including infrastructure and all charges fot the contractors use of the facility.	1	item			
P	Provide scaffolding additional to the main contractors standing scaffolding, or access towers if required.	1	item			
Q	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day	1	item			
R	Provide facilities for safe removal and disposal of all materials off site	1	item			
S	Provide a week by week program detailing the Mechanical and Electrical service activities	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide for heating / drying out the building as and when necessary to comply with their program. This may be done (at the clients specific consent) with the installed conventional heating system (if available). Be responsible, however, for providing the fuel to do this. Be responsible for maintaining background heat until the building is handed over to the client, after the heating system has been commissioned	1	item			
B	Provide and maintain the specific temperatures and humidity levels	1	item			
C	Provide Builders Attendances to all utility services as follows; Gas Networks Ireland, Eir, Virgin Media, Local Authority, ESB Networks.	1	item			
D	Fire stopping requirements of all services penetrations through fire compartment structures to be the responsibility of the building contractor. In addition, all pipework, ductwork, containment and service penetrations shall be fire-stopped where passing through every wall, floor and ceiling regardless if its a fire compartment or not by main contractor. Refer to M&E services drawings indicating main routes of M&E infrastructure. All instances of firestopping shall be labelled and certified using CE certified products including fire-pillows for use inside electrical trunkings.	1	item			
	Unload, hoist, distribute and place in position the following items of heavy plant and equipment					
E	Main switch board	1	item			
F	Sub-distribution boards	1	item			
G	MCC panel	1	item			
H	Containment	1	item			
J	Cabling	1	item			
K	Lighting	1	item			
	Sundries & Builders Work					
	General					
L	Marking positions of holes, mortices and chases	1	item			
M	Testing & Commissioning	1	item			
N	Preparing drawings of "as completed" installations	1	item			
P	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
Q	Keys, tools and spares	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Forming or cutting holes/mortices/chases and the like; including sleeves/plates, intumescent collars; making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
A	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
B	cutting or forming opes is deemed to include the making good and sealing of the ope		note			
	Cutting or forming holes through existing external walls various thicknesses; include for building in sleeves; making good all finishes on completion					
C	200mm x 150mm opes	1	nr			
D	1000mm x 150mm opes	1	nr			
	Cutting or forming holes through existing internal walls various thicknesses; include for building in sleeves; making good all finishes on completion					
E	200mm x 150mm opes	1	nr			
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification P12					
	Special works were services pass through structures; existing external walls various thicknesses, making good all finishes on completion					
F	200mm x 150mm opes	1	nr			
G	1000mm x 150mm opes	1	nr			
	Special works were services pass through structures; existing internal walls various thicknesses, making good all finishes on completion					
H	200mm x 150mm opes	1	nr			
				To Collection €		

				€	c
(6-) ELECTRICAL INSTALLATION (Cont)					
COLLECTION					
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Page No. Lot 8.3/40					
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(6-) ELECTRICAL INSTALLATION **Carried to Summary**					

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND					
	EXCAVATION AND EARTHWORK					
	Excavation					
	Excavation					
	Reduce levels					
A	Depth between not exceeding 2.00m	6	m3			
	Extra on Excavation Items for:					
	Breaking up existing					
B	Hard surfaces; Tarmacadam surface; 100mm thick; complete	9	m2			
	Disposal					
	Water					
C	Surface	1	item			
D	Ground	1	item			
	Excavated material; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
E	Disposal off site	6	m3			
F	Disposal off site; existing Tarmac; Disposal to a suitable licensed waste disposal facility	1	m3			
	Filling with hardcore to be obtained off-site; clean angular gravel 20mm, free from pyrite and macarsite as per specification					
	To make up levels					
G	Average thickness not exceeding 250mm	1	m3			
	Filling with hardcore to be obtained off-site; Clause 804 crushed stone well compacted on firm clean formation; compliant with TII Publications series 800, free from pyrite and macarsite as per specification					
	To make up levels					
H	Average thickness not exceeding 250mm	1	m3			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Filling with granular fill material to be obtained off-site; Class 6F2 compliant with TII Publications series 600, free from pyrite and macarsite; depositing in 150mm layers maximum thickness; compacting; as per Drawings and Specification					
	To make up levels					
A	Average thickness exceeding 250mm	3	m3			
	Surface treatments					
	Levelling and compacting; bottom of excavations					
B	Horizontal	9	m2			
	CONCRETE WORK					
	In-situ Concrete					
	Concrete cubes for testing					
	Provide for making concrete cubes from freshly mixed concrete; transporting and testing cubes; all as per details in the Specification					
C	Size 150 x 150 x 150mm	1	nr			
	In-situ Concrete; Reinforced					
	Grade C40/5-XF4 to IS EN 206					
	Beds					
D	Generally; Reinforced	2	m3			
	Surface Finishes					
	Brushed finish to wet concrete as per Specifications					
E	Generally	9	m2			
	Reinforcement					
	Fabric					
	A252 mesh reinforcement; 350mm laps; 350mm end laps; all in strict accordance with the Engineers Drawings and Specification					
F	Horizontal	9	m2			

To Collection €

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Formwork					
	Formwork Generally					
	Sides of beds					
A	Height or width 250 - 500mm	12	m			
B	Extra over for forming recess in floor slab for district heating pipe; comprising 65mm dia x 400mm deep recess; include for cutting to all angles and corners	4	nr			
	SURFACE PAVINGS, FENCING AND LANDSCAPING					
	Fencing					
	Reflective Acoustic Post and Panel Fencing; Birkdale DuraPost or equivalent, comprising of commercial DuraPosts constructed from cold rolled pre-galvanised (DX51D Z275NA-C) steel, manufactured to EN 10346. Treated Redwood Acoustic Timber Boards constructed from 70% PEFC Certified 200mm x 47mm slow-grown redwood boards. The rebated capping is constructed from 85mm x 35mm twice weathered 70% PEFC Certified slow-grown redwood. EPDM Rubber Seal 10mm thick x 50mm wide Cellular Adhesive EPDM Sponge Strip. A general purpose sponge rubber with excellent resistance. Static Load Testing; 1447kg / 14.2kN. Acoustic Rating; 28dB Reduction. ass/M2 (Timber Boards) 23.7kg/M2. 350 x 350 x 600mm Grade C30/37 concrete bases set 100mm below ground level; all as per Specification and Drawing					
	Acoustic Paladin Fencing System					
C	2400mm high above ground level	12	m			
	Extra over for					
D	Angle posts; 60x60x2 SHS posts, 2400mm high above ground level and 900mm below ground level; set in 450x450x600mm deep concrete grade C28/35 base	4	nr			
	Gates					
E	Single gate; opening size approx 1000 x 2400mm high	1	nr			
	100x100x10 SHS hot dipped galvanised SHS powder coated post; gate posts set in 1000x1000x1000mm C28/35 concrete pocket; top of concrete 300mm below ground level; galvanised to Specification and polyester powder coating to Specification in selected colour, colour to be chosen by the Architect from samples provided on site by the Contractor; complete					
	Gate Posts					
F	100 x 100 SHS posts; 2400mm high above ground level and 900mm below ground level; min 600mm embedment in concrete	2	nr			

				€	c
(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
COLLECTION					
Page No. Lot 8.3/45					
Page No. Lot 8.3/46					
Page No. Lot 8.3/47					
(30) SITE ENCLOSURES - PLANT COMPOUND **Carried to Summary**					

					€	c
	(50) SITE SERVICES - DISTRICT HEATING					
	DRAINAGE/SERVICES - DISTRICT HEATING					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr duct not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported compacted stone fill; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations; as per Engineer's Drawing					
C	Average depth 500 - 1000mm	2	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
D	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	2	m			
	Around existing services crossing excavations					
E	Storm pipe; crossing excavations	1	nr			
F	Foul pipe; crossing excavations	1	nr			
G	ESB; crossing excavations	1	nr			
	Disposal					
H	Ground water	1	item			
J	Surface water	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES - DISTRICT HEATING (Cont)					
	Sand bed and surround; to Engineer's Specification					
	Beds and Surrounds					
A	525 x 250mm; to 2nr 125mm duct	2	m			
	PVC marker tape; "Heptape" or equivalent					
B	Continuous strip; laid during trench backfill; 100mm above pipework	2	m			
	Ductwork					
	125mm diameter					
C	Laid in trenches	3	m			
D	Extra over for easy sweep bends	2	nr			
	MECHANICAL INSTALLATIONS					
	Generally					
	General; complete; refer to M&E Drawings, M&E Mechanical Engineering General Specification					
	General					
E	Testing and commissioning; all in accordance with Engineers specification documents and drawings	1	Item			
F	Operating and maintenance manuals; all in accordance with Engineers specification documents and drawings	1	Item			
G	Working drawings; all in accordance with Engineerss specification documents and drawings	1	Item			
H	Co- ordination drawings; all in accordance with Engineers specification documents and drawings	1	Item			
J	As built drawings; all in accordance with Engineers specification documents and drawings	1	Item			
K	Identification plates, labels and the like; all in accordance with Engineers specification documents and drawings	1	Item			
L	Builderswork; forming and cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels etc. and amking good, all in accordance with Engineers specification documents and drawings	1	Item			
M	Fire stopping and other associated fire protection works; all in accordance with Engineers specification documents and drawings	1	Item			

				€	c
(50) SITE SERVICES - DISTRICT HEATING (Cont)					
COLLECTION					
Page No. Lot 8.3/49					
Page No. Lot 8.3/50					
(50) SITE SERVICES - DISTRICT HEATING **Carried to Summary**					

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by Semple McKillop Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
				To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont) **ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS** **(50) SITE SERVICES (MAINLY MECHANICAL) - HEAT PUMPS** System External Air source Heat Pump installation, testing and commissioning; complete with all associated plant, pipework, valves, controls, insulation, frost protection, fully integrated with the building heating system; The heating system shall be flushed and provided with appropriate chemical treatment; The contractor shall provide, prior to handover, a commissioning certificate to confirm that correct treatment has been carried out; all in strict accordance with the Mechanical Engineers Specification Volume 1; Volume 2; Volume 3; Volume 4 and Drawings M-5601 Primary Equipment Air Source Heat Pump; The Contractor shall supply, install, test and commission packaged high efficiency, low noise, electric Air Source Heat Pump; complete; Heating Capacity (kW): 16kW; CoP (W/W): 2.7; SCoP (W/W): 3.43; Efficiency (%): 117; Compressor Type: Semi-Hermetic; Minimum Number of Compressors: 2; Source Heat Exchanger: Cu/Al pipes and fins with hydrophilic coating #Blue Fins#; User Heat Exchanger: Braze Welded Plate, Heat Exchanger (AISI 316 Stainless Steel) c/ w closed cell insulation and discharge temp sensor for anti-freeze protection; Refrigerant Type: R32; Outdoor Air Temp (øC): -3.0; Outdoor Relative Humidity (%): 80; Fluid Type: Water; In/Out Fluid Temp (øC): 50.0 / 55.0; Super Low Noise: Required; Max Fan RPM: 900 (low noise); Construction: Galvanised Sheet Steel painted with polyurenate powder enamel c/w removable panels; Control & rotection Devices: Required; Control Panel: Microprocessor based c/w display showing all operational icons and connections for MODBUS protocols; Serial Interface Card RS485: Required to allow the controller to communicate using Modbus Protocol; Head Pressure Control: This device, using a pressure probe installed on the source heat exchanger, controls the fan speed with respect to the ambient conditions; Accessories: Rubber Antivibration feet/pad, Condensate Drip Tray, Anti Freeze Kit, Pressure Gauges, Master / Slave Cascade Control system, Outdoor Air Temperature Sensor for Weather Compensation, Hydraulic Kit comprising centrifugal circulating pump c/w safety valve & fill/drain point; Defrost: Method Reverse Cycle; Defrost Control: Sensor for outdoor temperature; Warranty: 5 year parts and labour; include for all accessories; all in strict accordance with the Mechanical Engineers Equipment Schedule no. 1.1					
			To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
Warranty Requirements: The Tenderer shall ensure that all heat pump equipment supplied and installed under this contract is covered by a minimum warranty period of five (5) years post date of substantial completion.The warranty must ensure cover of:#Compressor, refrigerant circuit, heat exchangers, controls, and all major components#Labour, parts, diagnostics, and call outs for warranty repairs#No exclusions applied since operating due to typical operating profiles defined in this documentWarranty validity shall be dependent upon:#Correct system design and installation#Proper commissioning by competent personnel#Operation within the design parameters described below#Compliance with the maintenance regime set out in this section#Internet connection for continuous diagnostics (applicable to certain manufacturers)Where longer manufacturer warranties or reduced frequency service requirements are available at no additional cost, or at a cost saving, the Tenderer must include these within the tender. Service & Maintenance Requirements: The Tenderer shall allow for the minimum maintenance regime for the installed heat pump system in the tender pricing in order to maintain the 5-year warranty. Service Frequency# One service visit preferably every two (2) years, unless the equipment manufacturer explicitly requires a shorter interval (minimum one (1) year).(Tenderers shall only price for annual servicing if supported by documented manufacturer requirements.)#It is in the Tenderer#s interest to negotiate with heat pump manufacturers for longer service intervals in order to price their bid competitively."Minimum Service Scope (Biennial Visit): Each service visit must include at minimum:# Inspection and performance review of the refrigerant circuit# Verification of electrical connections and controls# Checks on hydraulic conditions (flow rates, pressures, pump performance)# Cleaning of filters, strainers, and debris screens# Cleaning of coil and fins. # Verification of correct operation, setpoints, and system sequencing# Review of system logs and operational history to confirm stable operationMaintenance must be carried out by competent personnel and appropriately recorded.Tenderers, must include all maintenance requirements to maintain the heat pump warranty for the 5 year period post substantial completion, in their tender pricing. Normal Design & Operating Parameters:For warranty purposes, #normal design conditions# refer to operation within the system#s intended thermal and hydraulic envelope, including:Project Specific OperationFor the installations considered in this project:# Systems are designed for ~55øC flow temperatures to maximise efficiency and minimise equipment stress, with the ability to operate at higher temperatures during peak demand within heat pump limits.# Backup boilers (gas/oil) will support peak loads and extreme conditions# The buildings have predictable, daytime based occupancy profiles and low annual running hours due to being schools# Heat pumps will operate predominantly during controlled and stable load conditionsThese factors result in:# Predictable and stable thermal loads# Reduced mechanical and thermal cycling# Lower probability of component stress or degradation# Improved reliability and long term warranty compliance					
			To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Tender Note # Commercial & Technical Expectations:Tenderers must base their submission on the following assumptions:# The systems are conservatively designed and operate comfortably within their capabilities# There is no reliance on electric backup# Operating conditions are stable due to predictable school occupancy profiles# A minimum 5 year warranty must be provided# Only the biennial service visit (once every two years) shall be priced into the tender unless the manufacturer requires otherwise# Tenderers are strongly encouraged to secure extended service intervals from their suppliers to improve lifecycle cost efficiency					
A	Air source heat pump Ref: ASHP-01; Location: External plant compound	2	nr			
	Accessories associated with Primary Equipment					
	Isolation valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
B	65mm Stop valves	4	nr			
	Non-return valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
C	65mm Non-return valves	2	nr			
	Auto-air vent valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
D	65mm Auto-air vent valve	2	nr			
	Test point valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
E	65mm Test point valves	4	nr			
	Pressure Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
F	65mm Pressure Gauge	4	nr			
	Flexible connections; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
G	65mm Flexible connections	4	nr			
	Anti-frost valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Volume 2					
H	65mm Anti-frost valve	4	nr			
				To Collection €		

(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)

Distribution

Pre-insulated, self-compensating, flexible heating pipework and fittings; Miniumum heat loss of 0.216W/m; Insulation: closed cell PUR foam wrapped in corrugated HD PEXa; Operating temp: 95øC; tested to 6 bar; include for all accessories; all in strict accordance with the Mechanical Engineers Specification and Drawings M-5601

A	65mm diameter pipework	1	item		

Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3, Section 1

B	65mm diameter pipework	1	item		

Insulation

Foiled faced fibreglass insulation; to all new pipework services; class A1, CFC and HCFC free with ozone depletion factor of zero; Thermal conductivity not exceeding 0.04W/m2K at 100øC; all joints taped and sealed; all in strict accordance with the Mechanical Engineers Specification Part 1, Section 4.2

Insulation, 40mm thick

C	to 65mm diameter pipework	1	item		

Valve jackets provided with Velcro fixings shall be provided on all valves, flanges, pumps and heat exchangers within the plant rooms and externally. All valve jackets used on external pipework shall be weather proof; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification

D	General Valve & Plant	1	item		

Aluminium Cladding; 18mm gauge aluminium, fixed with self-tapping screws; all in strict accordance with the Mechanical Engineers Specification

E	to 65mm diameter pipework	1	item		
F	General Valve & Plant	1	item		

General

Testing and commissioning; all in accordance with Engineers Specification

G	Testing and commissioning	1	item		
H	Testing,chemical dosing, sterilization and certification of all systems	1	item		

To Collection €

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Operating and maintenance manuals; all in accordance with Engineers Specification					
A	Operating and maintenance manuals	1	item			
B	Heat pump servicing; One service visit preferably every two (2) years, or in accordance with manufacturers requirements in order to maintain 5 year warranty.	1	item			
	Working drawings; all in accordance with Engineers Specification					
C	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
D	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
E	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
F	Identification plates, labels and the like	1	item			
	(50) SITE SERVICES - TRACE HEATING					
	System					
	Trace Heating installation, testing and commissioning; complete; Trace heating shall be installed on all the water systems where they travel externally between building blocks; Trace heating shall be provided complete with control panels and all required components to prevent system freezing. Capacity of trace heating shall maintain water temperature above 3øC when ambient temperature is -15øC. Trace heating temperature control shall prevent water temperature rising above 10øC. Trace heating system to incorporate air control thermostats and pipework safety cut out thermostats. All trace heating circuits shall be linked to BMS to provide status and fault indication on BMS; Supply electric trace heating complete with fixing tape, shrink sleeves, crimps, junction boxes and controls; all in strict accordance with the Mechanical Engineers Specification and Drawings					
	Primary Equipment					
	Trace heating control panel; all in strict accordance with the Electrical Engineers Specification					
G	Trace heating panel Location: Plant room	1	nr			

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Accessories associated with Primary Equipment					
	Self-regulating heating tape; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
A	Self-regulating heating tape	1	item			
	Air control thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
B	Air control thermostats	1	item			
	Safety cut out thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
C	Safety cut out thermostats	1	item			
	Insulation					
	Modified polyolefin electrical insulation; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
D	65mm diameter pipework	1	item			
E	Valves and Plant; generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
H	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
J	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
K	As built drawings	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Identification plates, labels and the like; all in accordance with Engineers Specification					
A	Identification plates, labels and the like	1	item			

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.3/52					
Page No. Lot 8.3/53					
Page No. Lot 8.3/54					
Page No. Lot 8.3/55					
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Page No. Lot 8.3/58					
Page No. Lot 8.3/59					
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	2	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	2	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	1	nr			
G	Foul pipe; crossing excavations	1	nr			
H	ESB; crossing excavations	1	nr			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
C	595 x 325mm; to 2nr ducts	2	m			
	PVC Red marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	2	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 300mm above pipework	2	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
F	Laid in trenches	3	m			
G	Extra over for easy sweep bends	2	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
H	Average depth not exceeding 1000mm	1	nr			
	Sundries					
J	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			
K	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
A	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
B	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
C	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
D	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
COLLECTION					
Page No. Lot 8.3/61					
Page No. Lot 8.3/62					
Page No. Lot 8.3/63					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	4	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	4	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	1	nr			
G	Foul pipe; crossing excavations	1	nr			
H	ESB; crossing excavations	1	nr			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
C	595 x 325mm; to 2nr ducts	4	m			
	PVC Red marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	4	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 300mm above pipework	4	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
F	Laid in trenches	8	m			
G	Extra over for easy sweep bends	2	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
H	Average depth not exceeding 1000mm	1	nr			
	Sundries					
J	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			
K	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			

To Collection €

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	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
A	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
B	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
C	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
D	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
COLLECTION					
Page No. Lot 8.3/65					
Page No. Lot 8.3/66					
Page No. Lot 8.3/67					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES					
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE LV INSTALLATIONS					
	System					
	LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-5003					
D	Site LV Installation	1	item			
	Equipment					
	Metering Switch Board; supply and installation; complete; Enclosure Type: Renely or equivalent; Cable Entry: bottom; Cable Exit: Top; complete with and including 1nr 400amp TP ABC Isolator, earth bond, ESB sealed metering cubicle, metering enclouser (to facilitate future upgarde CT metering), 2nr 400amp TP MCCB, shunt trip; surge protection; 800amp bush bars braced for 50kA AT 1s; 2nr 200amp TP MCCB, 1nr 250amp TP MCCB spare; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in strict accordance with the Electrical Engineers Specification Part 1, include for all accessories; all in accordance with the Electrical Specifications					
E	Metering Switch Board; Ref: REN-1; Location: External	1	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Fittings					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	2	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
B	Circuit charts to switch boards; Ref: REN-1	1	nr			
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
C	Submains Ref: 5; REN-01 to MSB-1; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
D	Submains Ref: 5; REN-01 to MSB-2; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
F	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
G	Operating and maintenance manuals; complete	1	nr			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
A	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
B	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
C	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
D	Identification plates, labels and the like; complete	1	item			
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER TO HEAT PUMPS					
	System					
	Power to Heat pumps installation, testing and commissioning; complete; The electrical contractor shall provide all wiring and power supplies associated with the external heat pumps as detailed on the wiring schematic; all underground electrical services cables shall be distributed within ducts; separate underground service ducts shall be provided as part of the builders works element; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-5003					
E	Heat Pump Power Installation	1	item			
	Accessories associated with terminal equipment					
	Isolator Switch; supply and installation (including wiring); complete; c/w back boxes; all in accordance with the electrical specification					
F	Rotary Isolator; TP; 125amp; external	1	nr			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 4; MSB-02 to ASHP01; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
B	Submains Ref: 4; MSB-02 to ASHP02; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
C	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
D	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
E	Operating and maintenance manuals; complete	1	nr			
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
F	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
G	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
H	As built drawings; complete	1	item			
				To Collection €		

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	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
A	Identification plates, labels and the like; complete	1	item			
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE EARTHING & BONDING					
	System					
	Earthing and Bonding installation; testing and commissioning; The contractor shall undertake to effectively earth the whole of the electrical installation in accordance with the NSAI I.S. 10101: 2020+A1:2024 Regulations; Main equipotential earth bonding should be provided from each of the following items, as a minimum, to the main earthing bar: Incoming Water Main, Incoming Gas Main, Metal drainage pipes, Structural Steelwork, Main Heating Pipework, Main Ventilation Ductwork, Lightning Protection System, Comms Rooms, Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations: Metallic Wireways and Containment, Suspended Ceiling Grids, Wash Hand Basins, Showers, Sinks, WC's, Cleaners Sinks, Catering equipment, Metal worktops, Plantroom Pipework (e.g. across pumps, valves, vessels, etc.); all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
B	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
C	Main Earth Terminal Bar	1	nr			
	Earthing points c/w inspection box; earth electrodes in accordance with I.S 10101:2020; complete; all in strict accordance with the Electrical Engineers Specification					
D	Earthing Points	4	nr			

	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Cables					
	Earth conductor cable; supply and installation complete; Cable size 95mm2 LSF earth; mechanically protected throughtout; all in accordance with the Electrical Engineers Specification					
A	Earth terminal bar to earth pits	1	item			
B	Switchboard to earth pits	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
C	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
E	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
F	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
G	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
H	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
J	Identification plates, labels and the like	1	item			

To Collection €

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.3/69					
Page No. Lot 8.3/70					
Page No. Lot 8.3/71					
Page No. Lot 8.3/72					
Page No. Lot 8.3/73					
Page No. Lot 8.3/74					
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS Carried to Summary					

				€	c
SUMMARY	**Page No.**				
(10) DEMOLITIONS AND ALTERATIONS	Lot 8.3/2				
(31) EXTERNAL WALL COMPLETIONS	Lot 8.3/4				
(35) & (45) CEILING FINISHES	Lot 8.3/6				
(5-) MECHANICAL INSTALLATION	Lot 8.3/25				
(6-) ELECTRICAL INSTALLATION	Lot 8.3/44				
(30) SITE ENCLOSURES - PLANT COMPOUND	Lot 8.3/48				
(50) SITE SERVICES - DISTRICT HEATING	Lot 8.3/51				
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS	Lot 8.3/60				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP	Lot 8.3/64				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER	Lot 8.3/68				
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS	Lot 8.3/75				
Total amount carried to general summary					
Lot 8.3/1 - Lot 8.3/75.					

8.4 - S N Cul An Mhuilinn

					€	c
	(10) DEMOLITIONS AND ALTERATIONS					
	DEMOLITION & ALTERATIONS					
	GENERAL					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYER'S REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Demolitions					
	Removing					
	Fittings and Fixtures					
B	Existing External single door and frame; approx 1000mm wide x 3160mm high; include all fittings, architrives, liners etc; diposal of all material off site	1	nr			
	Removing Finishes					
C	Existing ceiling finishes to certain locations within existing building; disposal of all materials off site; prepare ceilings to receive new finishes	78	m2			
	Plumbing and Engineering Installations					
D	Removal and disposal of existing oil tanks; include for grubbing up and disposal of all associated pipework; include fittings, etc.; include for disposal & making good where necessary; backfilling with Grade C16/20 S3 lean mix to Engineer's Satisfaction; complete	1	Item			
				To Collection €		

				€	c
(10) DEMOLITIONS AND ALTERATIONS (Cont)					
COLLECTION					
Page No. Lot 8.4/1					
(10) DEMOLITIONS AND ALTERATIONS **Carried to Summary**					

					€	c
	(31) EXTERNAL WALL COMPLETIONS					
	METALWORK					
	Non-Structural					
	ALUMINUM DOORS INCLUDING LOUVRE DOORS; The successful contractor will be responsible for the design, supply, fabrication, and installation of the doors all in accordance with the best building practices and systems supplier#s recommendations; The contractor will be responsible for providing all proposals, drawings, samples etc required to satisfy the requirements of the tender and also to demonstrate that the contractor is competent and able to execute the works in a proper and timely manner; The contractor will be responsible but not limited to providing the design team the following documentation in advance of any works been commenced; Providing all test data covering all the proposed systems; After the contractor has been awarded the project they must provide the design team the following prior to any work commencing; A full set of detailed shop drawings showing all the relevant interfaces, systems junctions, flashing details, glass types, and indicting all the surfaces being painted; include for inbuilt screen; as per Architect's specification					
	Composite Items; Doorsets (Louvred Doors)					
A	External Single Door; overall opening size (including frame) 1000mm wide x 3160mm high; comprising 1nr louvred door size 1000mm wide x 3160mm high; complete	1	nr			
				To Collection €		

				€	c
(31) EXTERNAL WALL COMPLETIONS (Cont)					
COLLECTION					
Page No. Lot 8.4/3					
(31) EXTERNAL WALL COMPLETIONS **Carried to Summary**					

					€	c
	(35) & (45) CEILING FINISHES					
	FLOOR, WALL & CEILING FINISHES					
	Suspended Ceiling					
	Proprietary suspended ceiling system; Manufacturer: Submit proposals for Architects approval; Product reference: CasoLine MF suspended ceiling system- or equivalent to Architect#s approval; Suspension system; Hanger type: Gypframe MF8 strap hangers; Top fixings: Gypframe MF12 soffit cleats fixed to concrete soffit or metal deck; Primary grid centres: 1200 mm. Hanger centres: 900 mm; Secondary grid centres: 400 mm; Linings: 1 x 12.5 mm Gyproc WallBoard, Gyproc moistureproof green board where noted on RCP's and in a wet area; Insulation: none; Access Units: Gyproc Profilex access panels; Finishing: Taped seamless finish; Primer/ Sealer; Type: 1 coat of Gyproc Drywall Primer (2 coats where noted as moistureproof green board; Accessories: none; all as per Architects Specification					
	Ceilings; fixed below floor structure					
A	Depth of suspension 500mm - 1000mm	78	m2			
	PAINTING AND DECORATING					
	Painting					
	Emulsion paint; To internal plastered surfaces and fairfaced blockwork; Manufacturer: Submit proposals for Architects approval; Product reference: Dulux trade Diamond Matt (water based tough Scrubbable Matt emulsion); Surfaces: Internal plastered surfaces; Preparation: Tape and fill joints; Initial coats: 40% thinned primer.Thinning Sealing new or bare surfaces: Add up to 1 part clean water to 10 parts paint; Number of coats: 2; Undercoats: As recommended by manufacturer; Number of coats: As recommended by manufacturer; Finishing coats: Washable matt vinyl; Number of coats: 2; all as per Architects Specification					
	Ceilings					
B	Exceeding 300mm	78	m2			
				To Collection €		

				€	c
(35) & (45) CEILING FINISHES (Cont)					
COLLECTION					
Page No. Lot 8.4/5					
(35) & (45) CEILING FINISHES **Carried to Summary**					

					€	c
	(5-) MECHANICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
	Modifications to existing single pipe heating circuit to accommodate new works (measured elsewhere); including isolation, draining down, cutting into existing pipework, formation of connections, provision of fittings, valves, and supports as required, testing, making good, and full reinstatement of insulation and finishes; all in accordance with the Mechanical Specification and Drawing M-5601					
	Notes					
B	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
C	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
D	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ASBESTOS REMOVAL					
	DEMOLITION & ALTERATIONS					
	General					
E	The following items are not measured in strict accordance with ARM.		note			

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	The Contractor is refered to the Pre Refurbishment & Demolition Asbestos Survey		note			
B	The Contractor must ensure that any risk of exposure to asbestos is completely eliminated. Contractor to consult with Employer's Representative before any work commences on site.	1	item			
C	The Contractor is advised that there is a notification form to be used for any work involving asbestos. This form must be submitted 28 days prior to the start of such work.	1	item			
D	The Main Contractor / PSCS must appoint a specialist asbestos removal contractor to carry out the asbestos removal & disposal works	1	item			
E	Prior to commencing any demolition or construction works on site all asbestos must be removed from site; in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010	1	item			
F	The Main Contractor / PSCS must appoint a competent independent analyst / accredited laboratory for the purpose of undertaking air sampling, project monitoring and issuing site clearance for reoccupation certification; in conformance with ISO 17025 General Requirements for the Competence of Testing and Calibration Laboratories	1	item			
G	Prior to commencing the asbestos removal works the specialist contractor shall submit (to the PSDP & Employer's Representitive) their Plan of Work (risk assessment / method statement), Design Risk Assessment, and temporary works certificates for the Asbestos Removal works (at least 21 days in advance of commencing the asbestos removal works)	1	item			
H	Prior to commencing the asbestos removal works the specialist contractor shall submit their Plan of Work (risk assessment / method statement), and notify, to the HSA (at least 14 days in advance of commencing the asbestos removal works). The PSCS must also ensure that copies of the notifications are forwarded to the PSDP, Client & Project Manager	1	item			
J	No works may take place on site until the Plan of Work has been drawn up and approved by the Main Contractor / PSCS	1	item			
K	No deviations shall be permitted from the plan of work submitted to the HSA	1	item			
L	Should the Plan of Work require amending / updating (for whatever reason) it must be issued to the PSDP & Project Manager in the first instance, and then the HSA, prior to proceeding with any proposed changes	1	item			
M	No asbestos removal works may take place in areas occupied by normal construction / project personnel and / or third parties	1	item			
N	An asbestos site clearance for reoccupation certificate(s) must be supplied (by the competent independent analyst / accredited laboratory) to the PSDP & Project Manager prior to commencing any demolition or construction works on site (other than the asbestos removal works); the certificate(s) must include (1) Visual inspection, (2) Air monitoring and (3) The decontamination unit	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	After completing Asbestos Removal works the PSCS must ensure that asbestos site clearance for reoccupation certificates are issued to the Project Manager, PSDP, and Client PRIOR to allowing those areas to be opened up to persons (other than those persons directly involved in the asbestos removal works)	1	item			
B	NO Asbestos Containing Waste Material may be removed from the site unless a Waste Transfer Form (removal of Hazardous Waste Material from Site) has been completed and issued to the PSCS / Main Contractor, the PSDP & Project Manager	1	item			
C	The PSCS / Main Contractor must forward copies of final disposal certificates (i.e. completed Waste Transfer Form (final disposal of Hazardous Waste Material)) to the PSDP & Project Manager	1	item			
D	The PSCS / Main Contractor must forward, the following information (as applicable) to the PSDP, for inclusion in the Safety File; Bulk sample results, Amended Asbestos Register, Preliminary Safety & Health Plan and Specification, Specialist asbestos removal contractor Plan of Work, Notification to the Health and Safety Authority, Air monitoring results prior to removal works commencing, Air monitoring results during removal works, site clearance for reoccupation certificates, Completed Waste Transfer Form for the final disposal of all asbestos / hazardous waste.	1	item			
E	All asbestos works must be carried out in accordance with; The HSA 2010 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001, The Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010, The HSA Guidelines on Working with Materials Containing Asbestos Cement (and any subsequent amendments updates to HSA Guidelines and / or Codes of Practice)	1	item			
F	Contractor to include here (Unless included in rates elsewhere) for protection of all fixtures, fittings and finishes to all areas in which asbestos removal occurs	1	item			
	<u>Alterations</u>					
G	The Contractor must note that the safe and proper removal and disposal of all asbestos material is the Contractor's full responsibility and therefore the contractor's price/rates must include for all work in connection with same; no claims on the grounds of want of knowledge will be entertained whatsoever.	1	item			
	Removing Finishes; Asbestos Material					
H	Submit Plan of Work and 14 day prior notification to the Health & Safety Authority	1	item			
J	Setup Decontamination Unit & Form Enclosures	1	item			
K	Specialist removal and disposal of asbestos-containing valves in accordance with all relevant safety and environmental regulations.	1	item			
L	Specialist removal and disposal of asbestos - textured coating on a mass concrete ceiling - 3m2 - chrysotile in accordance with all relevant safety and environmental regulations.	1	item			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
A	Specialist removal and disposal of asbestos - pump gaskets - ground floor boiler room - 2nr - chrysotile in accordance with all relevant safety and environmental regulations.	1	item			
B	Environmental clean to achieve clearance certification	1	item			
C	Asbestos Removal & Disposal Certificates	1	item			
D	INAB Accredited Asbestos Clearance Certification					
E	Reassurance Air Monitoring and Re-occupation Clearance Certification by an Asbestos Consultant	1	item			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS					
	(51) HEATING CENTRE					
	System					
	Heating center installation, testing and commissioning; consisting of 2nr ASHP (Primary heating source) and 2nr LPG gas fired condensing boilers (secondary heating source) serving radiators throughout the building; the installation shall include a pressurisation unit, expansion vessel, pipework, shunt pumps and all associated valves; the existing header and on floor distribution pipework to be retained and reused; existing flow rates to be recorded prior to works and re-established at the end of the works; The heating system shall be flushed and provided with appropriate chemical treatment; Commissioning results including a flue gas analysis shall be provided for the boilers prior to handover, along with a statement by the manufacturer/supplier confirming their correct and efficient operation; all in strict accordance with the Mechanical Engineers Specification Part 1; Part 2; Part 3; Part 4 and Drawings M-5601					
	Accessories associated with Primary Equipment					
	Stop valves for isolation of LPHW pipework up to 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3					
F	22mm Stop valves	2	nr			
G	50mm Stop valves	14	nr			
H	55mm Stop valves	3	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Stop valves for isolation of LPHW pipework over to 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3					
A	100mm Stop valves	3	nr			
	Non-return valves; include for all accessories and fittings; all in strict accordance with Engineers Specification Part 3					
B	22mm Non-return valves	3	nr			
C	50mm Non-return valves	1	nr			
D	55mm Non-return valves	1	nr			
	Lock Shield Valve; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
E	22mm Lock shield valve	2	nr			
	Angle Pressure Released Safety Valve; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Engineers Specification Part 3					
F	65mm safety valve	1	nr			
	Strainer valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
G	50mm Strainer Valves	3	nr			
H	100mm Strainer Valves	1	nr			
	Auto Air Vents; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
J	22mm AAV Valve	1	nr			
	Temperature Sensors; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
K	50mm Temperature sensor	7	nr			
L	55mm Temperature sensor	3	nr			
M	100mm Temperature sensor	2	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Temperature Guage; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
A	50mm Temperature guage	3	nr			
B	55mm Temperature guage	1	nr			
	Pressure gauge; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
C	50mm Pressure gauge	2	nr			
D	55mm Pressure gauge	1	nr			
E	100mm Pressure gauge	2	nr			
	Flexible connections; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
F	50mm Flexible connections	3	nr			
G	100mm Flexible connections	3	nr			
	Commissioning Sets; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
H	50mm Commissioning Set	2	nr			
J	100mm Commissioning Set	1	nr			
	Flushing Bypass; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
K	50mm Flushing Bypass	2	nr			
	Drain Cock Valve; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
L	50mm Drain Cock Valve	2	nr			
	Sensor Flow; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
M	50mm Sensor Flow	2	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Gas Fired Boiler; The Contractor shall supply, install test and commission a fully packaged cascading wall mounted modulating LPG gas fired boiler plant in each schools Heating Plant room as an assist to the electric Air Source Heat Pump primary plant; Description: Wall hung modulating boilers; Fuel: LPG; LPHW Flow & Return Operating Temps: 50/30oC; Output Duty: 21.6 - 103.9 kW; Gas Consumption: 10.8m3/hr; Dimensions (W x H x D): 850 x 520 x 500mm; Water content: 73kg; Accessories: Integral class #A# modulating pump T 20, Weather compensated controller c/w north facing temp stat, LPG Conversion Kit, 3 bar safety valve, Connection module and VFC required for connection to the BEMS for Enable/Fault; all in strict accordance with the Mechanical Engineers Equipment Schedule					
A	Gas Fired Boiler; Ref: B-02	1	nr			
B	Gas Fired Boiler; Ref: B-03	1	nr			
	Air Separator; supply and installation; complete; Description: Deaerator, Application: LPHW Heating System; Connection Size: DN 100; Construction: Mild steel, welded; Mounting: Inline; Finish: Powder coated; Max. flow velocity: 1.5 m/s; Pressure drop at Max. Flow: 4.2 kPa; Auto Air Vent: Integral; Stainer Screen: Stainless Steel; Magnets: Neodymium Magnets; Typical Height: 1500 mm; Typical Length: 650 mm; Compliance: Declaration of Performance / CE Certification / Confirmation of CPR Exemption PED 2014/68/EU; all in strict accordance with the Mechanical Engineers Equipment Schedule					
C	Air Separator; Ref: ASP-01	1	nr			
	Dirt Separator; supply and installation; complete; The Contractor shall supply and install air/dirt separators on the primary flow & return heating pipework from the ASHP; Description: Deaerator, Application: LPHW Heating System; Connection Size: DN 100; Construction: Mild steel, welded; Mounting: Inline; Finish: Powder coated; Max. flow velocity: 1.5 m/s; Pressure drop at Max. Flow: 4.2 kPa; Auto Air Vent: Integral; Stainer Screen: Stainless Steel; Magnets: Neodymium Magnets; Typical Height: 1500 mm; Typical Length: 650 mm; Compliance: Declaration of Performance / CE Certification / Confirmation of CPR Exemption PED 2014/68/EU; all in strict accordance with the Mechanical Engineers Equipment Schedule					
D	Dirt Separator; Ref: MSD-01	1	nr			
	Circulation Pump; supply and installation; complete; Description: Single head, canned-rotor type c/w integral variable speed control & BMS connectivity; Power: 230C/1ph/50Hz; Pump Housing Material: Stainless Steel; Impeller Material: PES 30% GF; Maximum Operating Pressure: 10 bar; Enclosure Class: X4D; Insulation Class: F; Energy (EEI): 0.18; Compliance: Declaration of Performance / CE Certification; See Part 3: Standard Clauses; for appropriate standards; ERP Directive (2009/125/EC); EU Regulation (813/2013); Energy Labelling Framework; Regulation (EU) (2017/1369); EU Regulation (811/2013); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.5					
E	Pump LPHW, Ref: PMP01; Flow rate: 0.77kg/s; Head: 24kPa	1	nr			
F	Pump LPHW, Ref: PMP02; Flow rate: 0.77kg/s; Head: 24kPa	1	nr			

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Circulation Pump; supply and installation; complete; Description: Twin head, canned-rotor type c/w integral variable speed control & BMS connectivity; Power: 230C/1ph/50Hz; Pump Housing Material: Cast Iron; Impeller Material: Cast Iron; Maximum Operating Pressure: 10 bar; Enclosure Class: X4D; Insulation Class: F; Energy (EEI): 0.17; Compliance: Declaration of Performance / CE Certification; See Part 3: Standard Clauses; for appropriate standards; ERP Directive (2009/125/EC); EU Regulation (813/2013); Energy Labelling Framework; Regulation (EU) (2017/1369); EU Regulation (811/2013); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.5					
A	Pump LPHW, Ref: PMP03; Flow rate: 12 kg/s; Head: 120kPa	1	nr			
B	Pump LPHW, Ref: PMP04; Flow rate: 12 kg/s; Head: 120kPa	1	nr			
	Pressurisation Unit; supply and installation; complete; Description: Floor Standing LPHW Pressurisation Unit, Pumps: Twin.; Breaktank Connection: #AB# air gap to water supply; Max Working Pressure: 10 Bar; Connectivity: Volt Free Contacts required for High/Low level fault output to BMS; Digital Display: Required c/w password protection; Independent High / Low Pressure Alarm: Hard-wired; Auto Fill Capacity: Required; Standards/ Conformity: ISO 9001, BSEN 60204 Part 1, WRAS approved, IMQ & VDE Standards, PED, EMC Directives; Expansion Vessel: See drawings; Max. Working Pressure of Expansion Vessels: 10 bar; Pressurisation unit to supply common fault signal to BMS, Pressurisation unit c/ w high & low pressure trip, Quick fill loop to be included as part of installation; all in strict accordance with the Mechanical Engineers Equipment Schedule 1.8					
C	Pressurisation Unit; Ref: PRU001; Location: Plant room	1	nr			
	Buffer Vessel; supply and installation complete; Description: Direct Heating Vertical Buffer Vessel; Storage Capacity: 400 litres; Material: Mild Steel Construction with exterior paint; Max. Temperature: 99øC; Max. Working Pressure: 3 bar; Max.; Size: 1700mm (H) x 600mm (diameter); Connections: See schematic; Insulation: 550mm soft polyester fibre insulation with high Thermal insulation to ErP class B or C, Fire Class: B-s2do to EN 13501; Warranty: 5 years; Accessories: Access hatch, Temperature Gauge, Pressure Gauge, Temp/Pressure, Safety Valve & tundish, Immersion Pockets 200mm deep min; Compliance: Declaration of Performance / CE Certification PED 2014/68/EU; all in strict accordance with the Mechanical Specification Part 4, Section 1.4					
D	Buffer vessel; Ref: BUF001	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Chemical dosing pot; supply and installation; complete; Capacity: 11 litres; Construction: Mild steel, welded; Mounting: Wall mounted c/w wall mounting brackets; Finish: powder coated; Minimum Output: 1 kW; Connection Details: Tundish, 1# fill valved connection, 1# drain valved connection, 1# flow valved connection, 12 return valved connection, Air vent Connection Sizes 1#; Typical Height: 880 mm; Typical Diameter: 200 mm; Weight: 16.5; c/w foot valve; chemical drum; Cleansing; Corrosion inhibitor and wall mounting brackets; include for all accessories and fittings; all in strict accordance with the Mechanical Equipment Schedule 1.7					
A	Chemical dosing pot	1	nr			
	Expansion Vessel; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
B	Expansion Vessel	1	nr			
	Hydraulic Low Loss Header; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
C	Hydraulic Low Loss Header	1	nr			
	Boiler Flues; Flues shall be installed from each boiler as a pre-fabricated horizontal discharge balanced flue system; Description: Horizontal Balanced Flue Kit; Construction Inner: 304 grade s/steel (EN 1.4301); Construction Outer: Powder Coated Steel; Insulation Thickness: 50mm; Fire Rating: 2 hours (BS 476: Part 20); Minimum Clearance to Combustible Material: 50mm; Terminal Type: Suitable for Horizontal discharge; Support Brackets Int. Use: Powder-coated, 304 grade stainless steel; Roof terminal kit: Required; all in strict accordance with the Mechanical Engineers Specification Part 3					
D	Boiler flue; Size 100/160mm diameter	2	nr			
E	Boiler flue; Size 200mm diameter	1	nr			
F	Boiler header flue; Size 200mm diameter	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Description Heat meter; Media LPHW; Visible Display Digital; Pulse Output Requirements; Switch type - reed; Contacts - VFC; Pulse value # 1 kw/h per pulse; Load current - 500mA; Max switch voltage - 180 Vdc; Contact rating # 10W; Flying lead - 2m; Requirements - Class 2 Ultrasonic flow sensor - Calculator with integral hardware and software for measuring flow rate, temperature and energy consumption - Temperature sensors - Pulsed Input interface card for water sub-metering- Remote reading via M-Bus or similar interface - Power save mode - 24 month memory - Extensive diagnostic displays; Connection Type As per Part 3: Standard Clauses; Inline Strainer Required; Installation Positions Horizontal & vertical; Max Pressure 16 Bar; Media Temperature 1 oC # 90/130oC; Operating Temperature 1 oC # 90/130oC; Compliance Declaration of Performance/CE Certification, IS EN 14154, MID (Measuring Instrument Directive) 2004/22/, EC, CEN EN 1434 (2007) and OIML R5 (2002); all in strict accordance with the Mechanical drawing and Specifications documents Volume 3 - Equipment Schedules 2.4					
A	Heat Meter	1	nr			
	Distribution					
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3					
B	22mm diameter pipework	1	item			
C	50mm diameter pipework	1	item			
D	55mm diameter pipework	1	item			
E	100mm diameter pipework	1	item			
	Heating Distribution pipework up to and including 80mm shall be Copper to IS EN 1057; include for all fixings All fittings employed on copper pipework systems shall be of the nondezincifiable quality. Soldered joints shall be in accordance with HVCA TR7 #Guidance on Soft Soldering for Pipe Jointing Copper# using lead free solder. On sizes 54 mm and below joints shall be made with capillary fittings to IS EN 1254 using lead free solder. On condense, boiler feed and boiler blow down systems an approved silver brazing alloy to IS EN 1044 shall be used. At dismantling points, unions, or flanged joints as appropriate shall be used. For connections to all appliances and on drainage pipework, joints shall be made with compression fittings to EN 1254 Part 2 or 2051 Part 1 as appropriate; all in strict accordance with the Mechanical Engineers Specification Part 4					
F	22mm diameter pipework	1	item			
G	50mm diameter pipework	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	55mm diameter pipework	1	item			
B	100mm diameter pipework	1	item			
	Insulation					
	Phenolic preformed section insulation; to LTHW services pipes; Thermal conductivity shall not exceed 0.042 Wm2K at 100oC; All insulation shall be fitted in accordance with the manufacturer#s instructions. All heating and plumbing pipework, valves and ancillary equipment within the plant room and external plant compound shall be insulated and aluminum hammer clad to provide mechanical protection; All insulation shall be Class A1, CFC and HCFC free with ozone depletion factor of zero; include for all accessories; all in accordance with the Mechanical Engineers Specification Part 4					
	Insulation, 15mm thick					
C	to 22mm diameter pipework	1	item			
	Insulation, 40mm thick					
D	to 50mm diameter pipework	1	item			
E	to 55mm diameter pipework	1	item			
F	to 100mm diameter pipework	1	item			
	Insulated cover boxes; aluminium split casing c/w spring clip fasteners, 35mm thick insulation lining; sized to suit valve; vapour sealed; all in accordance with Engineers Specification Part 4					
G	General valves	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
H	Testing and commissioning	1	item			
J	Testing,chemical dosing, sterilization and certification of all systems	1	item			
K	Completion of heat meter commissioning reports	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
L	Operating and maintenance manuals	1	item			
M	Filter maintenance; allow for 3 visits to site after completion for filter cleaning	1	item			
				To Collection €		

	(5-) MECHANICAL INSTALLATION (Cont)					
	Working drawings; all in accordance with Engineers Specification					
A	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
B	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
C	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
D	Identification plates, labels and the like	1	item			
	(52) DRAINAGE AND REFUSE DISPOSAL					
	System					
	Soils and Waste Drainage Installation, testing and commissioning; complete; The complete installation of all above ground foul water drainage and refuse disposals; The Mechanical Contractor shall also be responsible for removal from storage and carriage to the position, erection of each item and all connections to and from the sanitaryware as detailed on the drawings and within this specification; all in strict accordance with the Mechanical Engineers Specification					
	Distribution System					
	Condensate pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work; all in strict accordance with the Mechanical Specification					
E	28mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
F	32mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
G	Testing and commissioning	1	item			

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Operating and maintenance manuals; all in accordance with Engineers Specification					
A	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
B	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
C	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
D	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
E	Identification plates, labels and the like	1	item			
				To Collection €		

(5-) MECHANICAL INSTALLATION (Cont)

(53) WATER SERVICES - HOT AND COLD WATER

System

Cold Water Distribution installation, testing and commissioning; The water services installation shall consist of mains water pipework extending to the cold-water storage tank and to the mains-water service outlets within the building. The pipework extends from the tank to a variable speed booster within the plant room. The pipework is distributed to serve cold water outlets, hot water cylinder, hot water outlets and appliances. All appliances and water outlets will be locally isolated to facilitate future maintenance; all in strict accordance with the Mechanical Engineers Specification

Hot Water Distribution installation, testing and commissioning; A new domestic hot water recirculation system shall be installed with a domestic hot water return pump fitted on the inlet to DHW Pre-Heat Cylinder; The main domestic hot water flow and return pipework shall generally be distributed within corridor ceiling voids with branch pipework extended to each space requiring a hot water supply and shall drop locally at each item of sanitaryware and rise back up to the ceiling void before dropping to the next sanitaryware fitting; Domestic hot water must be circulated throughout each schools hot water system at a minimum temperature of 55oC in order to protect against legionella; all in strict accordance with the Mechanical Engineers Specification

Equipment

Gas Fired Hot Water Heater; Minimium Storage Capacity (L): 230; Recovery rate @ 50oc: 600 l/hr; Flue dia 150/200mm; The hot water generator shall be a fully modulating LPG Fired unit; The hot water heater shall be supplied with a room sealed horizontal flue kit; complete; all in strict accordance with the Mechanical drawing and Specifications documents Volume 3 - Equipment Schedules

A	Gas Fired Water Heater; Ref: HW01; Location: Boiler room	1	nr		

Accessories associated with Primary Equipment

Isolation valves; Isolating valves shall be provided as indicated on the drawings; all in accordance with the Mechanical Engineers Specification Part 3

B	50mm Isolation Valves	3	nr		
	Three Port Valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification part 3				
C	50mm Three Port Valve	1	nr		
	Angle Pressure Relief Safety Valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3				
D	50mm Angle Pressure Relief Safety Valve	1	nr		

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	AW Valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
A	50mm AW Valve	1	nr			
	Double Check Valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
B	50mm Double Check Valve	3	nr			
	Commissioning Sets; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
C	50mm Commissioning Set	1	nr			
	Temperature Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
D	50mm Temperature Gauge	2	nr			
	DHW Return Pump; supply and installation; complete; Type Single-head, canned-rotor type c/w constant speed & 3 no. variable settings; Minimum Energy Class A; Design Flow-rate 0.2 litres / sec; Design Pressure 125 kPa; Pump Housing Material Stainless steel; Impeller Material PES 30%GF; Maximum Operating Pressure 10 bar; Maximum Operating; Temperature: 110øC; Maximum Ambient; Temperature: 40øC; Power Input 333 W; Maximum Current Consumption 1.55 A; Power Supply 50/60Hz; Rated Voltage 230 V; Enclosure Class X4D; Insulation Class F; Minimum Efficiency Index EEI: 0.18 Compliance: Declaration of Performance / CE Certification EN 12756 EN 1092-2); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.12					
E	Pump DHW, Ref: PMP05; Flow rate: 0.2 l/s; Head: 125kPa	1	nr			
	<u>Distribution</u>					
	Copper Pipes and Fitting; supply and installation complete; Application: Domestic hot and cold water pipelines; Material: Copper; Finish: uncoated; include for all fixing brackets, hangers and supports; include for all elbows, expansion bellows, unions and tees necessary to complete works;Hot and cold-water pipework shall be installed in copper tube to IS EN 1057. The Contractor shall use only CE marked tube and potable range fittings. Solders containing lead must not be used on the Site. Main branch stop valves shall be installed generally as shown on the drawings and in safely accessible locations. Ballofix valves shall be fitted to pipework at all sanitary appliances. Hot water taps shall be positioned on the left-hand side of all sanitary ware; all in accordance with the Mechanical Engineers Specification					
F	50mm diameter pipework	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Non-matallic pipework and fittings; in accordance with the Irish Standard IS EN 806:2005: Specification for installations inside buildings conveying water for human consumption; include for all fixing brackets, hangers and supports; include for all elbows, unions and tees necessary to complete works; all in accordance with the Mechanical Engineers Specification					
A	50mm diameter pipework	1	item			
	Insulation					
	Thermal insulation; to all HWS/HWR services pipes; thermal conductivity not exceeding 0.035 W/mK; All pipework and valves within each Heating Plant room, in casings, ceiling voids or attic spaces shall be fully insulated with rigid mineral wool with foil covering as detailed in Part 3: Standard Specification and shall be fitted in accordance with the manufacturer#s instructions; All insulation shall be Class A1, CFC and HCFC free with ozone depletion factor of zero; include for all accessories; all in accordance with the Mechanical Engineers Specification					
	Insulation, 40mm thick					
B	to 50mm diameter pipework	1	item			
	Insulated cover boxes; aluminium split casing c/w spring clip fasteners, 35mm thick insulation lining; sized to suit valve; vapour sealed; all in accordance with Engineers Specification					
C	General valves	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
E	Testing,chemical dosing, sterilization and certification of all systems	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like	1	item			
	(54) GAS DISTRIBUTION - LPG GAS SERVICES					
	System					
	LPG Gas distribution; installation testing and commissioning; The school building will be fed from a new incoming LPG gas supply; The contractor shall allow for liaising with the gas supplier regarding coordination of works and certification of the site gas pipework and tank installation; LPG installation shall be installed in compliance with IS3213; all in strict accordance with the Mechanical Specification Part 1, Part 2, Part 3 and Part 4					
	Accessories associated with Primary Equipment					
	Isolation Valves; isolation of gas services pipework; include for all accessories; all in strict accordance with the Mechanical Specification Part 3					
C	40mm Stop valves	4	nr			
	Gas Meter; Low pressure drop turbine gas meter; Gas meter to have volt free contacts for connection to the BMS; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
D	Gas Meter	1	nr			
	Distribution System					
	Galvanised Medium Grade Mild steel pipework and fittings; include for all fixings and supports, elbows,expansion bellows; unions and tees necessary to complete works; Painted with two coats of yellow ochre paint; pipework run in ceiling voids; all in strict accordance with the Mechanical Specification Part 3					
E	40mm diameter pipework	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Operating and maintenance manuals; all in accordance with Engineers Specification					
A	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
B	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
C	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
D	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
E	Identification plates, labels and the like	1	item			
	(54) GAS DETECTION SYSTEM					
	System					
	Gas detection system installation testing and commissioning; A gas detection system will be installed in the heating center comprising of gas detectors, heat detectors, slam shut valve, gas detection panel and emergency lock-stop located adjacent to the boiler room door; The gas detection panel shall be provided with volt free contacts and an I/O interface unit for connection to the schools fire alarm system; all in strict accordance with the Mechanical Specification Part 1, Part 2, Part 3 and Part 4					
	Primary Equipment					
	Gas detection control panel; c/w emergency knock-off button, reset button, mute button, LED indication for power on, gas-on and emergency stop; free relay output for the BMS; IP44; CE rated, IEC61779-1; wall mounted; include for all accessories and fittings; all in accordance with the Mechanical Specification - Equipment schedules					
F	Gas detection control panel; Location: Boiler room	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Accessories associated with Primary Equipment					
	Gas Slam Shut Valve; supply and installation; complete; Auto reset on loss of power and fire alarm reset; compliance to EN161 and DIN Class A; maximum consumption of 2W during normal usage; all in strict accordance with Engineers Specification - Equipment schedules					
A	40mm Gas solenoid valve	1	nr			
	Emergency Push Button; supply and installation; complete; all in strict accordance with Engineers Specification					
B	Emergency Push Button	1	nr			
	Gas Detectors; supply and installation; complete; IP44 protection; Mounting: mounted over each burner, linked to the gas control panel; c/w gas conical collector hood; all in strict accordance with Engineers Specification					
C	Gas detector	1	nr			
	Heat Detectors; supply and installation; complete; all in strict accordance with Engineers Specification Volume 2					
D	Heat Detectors	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

(5-) MECHANICAL INSTALLATION (Cont)

(58) FIRE PROTECTION INSTALLATION

System

Fire Fighting installation, testing and commissioning; complete; Hand held fire extinguishers and fire blankets shall be provided throughout the building as detailed on the drawings; The installation will comply with BS 5306-2000-Part 8; The Contractor shall be responsible for carrying out the commissioning of the portable fire extinguishers before they are installed; all in strict accordance with the Mechanical Specification

Terminal equipment and Fittings

Fire Extinguishers supply and installation; complete with 5 years guarantee, CE approved and marked; all in accordance with the Mechanical Specification

A	5KG CO2 Gas Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr		
B	5kg ABC Dry Powder Fire Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr		

General

Testing and commissioning; all in accordance with Engineers Specification

C	Testing and commissioning	1	item		

Operating and maintenance manuals; all in accordance with Engineers Specification

D	Operating and maintenance manuals	1	item		

Working drawings; all in accordance with Engineers Specification

E	Working drawings	1	item		

Co-ordination drawings; all in accordance with Engineers Specification

F	Co-ordination drawings	1	item		

As built drawings; all in accordance with Engineers Specification

G	As built drawings	1	item		

Identification plates, labels and the like; all in accordance with Engineers Specification

H	Identification plates, labels and the like	1	item		

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	MECHANICAL INSTALLATIONS					
	Sundries & Builders Work					
	General Attendances					
A	Provide all general attendances in accordance with Arm 4 .	1	item			
B	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
C	Provide use of the Main Contractors scaffolding.	1	item			
D	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
E	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
F	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
G	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Mechanical services works, including testing and commissioning , and pay all ongoing operation charges.	1	item			
H	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
J	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
K	Provide temporary telephone services to the Mechanical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
L	Include for unloading, hoisting/cranage and placing into position all items of heavy plant and site offices supplied by the sub-contractors.	1	item			
M	Allow for maintaining all ducts, chases, trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
N	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
P	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
Q	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
R	Provide all special attendances in accordance with Arm 4 Clause 3.1	1	item			

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Provide temporary roads and hardstandings in connection with heavy items of plant and the like.	1	item			
B	Provide accommodation for the sub-contractor's staff for eating, site lavatories, site washing facilities, and cloaks.	1	item			
C	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
D	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
E	Provide temporary distribution systems for lighting, power, water for the execution of the electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
F	Provide the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
G	Protection of the works the Main Contractor is responsible for providing adequate protection at all times for the Mechanical services installation.	1	item			
H	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day.	1	item			
J	Provide external access to high level on building facade to permit the installation of any external equipment/fittings and for the removal of existing services as required.	1	item			
K	Provide Mobile Elevated Working Platforms (MEWP) or scaffolding for Mechanical sub-contractors working at high level.	1	item			
L	Provide for weathering & sleeving around all penetrations through the external structure of the building and to allow for sealing to fabric to maintain air tightness.	1	item			
M	Allow for maintaining all ducts, chases, trenches, trunking etc, clean and free of all water, debris and rodents at all times.	1	item			
N	Allow for making good and fire sealing of all builders work opes with proprietary sealant to architects details, where services penetrate fire zones.	1	item			
P	Allow for coordination with local authorities and utility providers in respect of application for connections, providing excavation of roads and full coordination with various utility companies.	1	item			
Q	Coordinate with Mechanical Contractor to facilitate fitting of all sanitary ware.	1	item			
R	Allow for patrices behind ceiling tiles and ceilings for the support of light fittings, grilles, smoke detectors, sensors etc.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Allow for weathering details on all services passing through external envelope.	1	item			
B	Allow for all service / utility entries into building.	1	item			
C	Allow for clearing away and disposal of any rubbish.	1	item			
D	Provide safe access to roofspace to facilitate Mechanical installation work.	1	item			
E	Making good of opes for fire smoke dampers.	1	item			
F	Provide and maintain the specific temperatures and humidity levels.	1	item			
G	Contractor to provide for the construction of a walkway within the Attic space for service and maintenance of water and ventilation services.	1	item			
H	Contractor to ensure all existing services shut downs for connecting in new and changeovers shall be carried out between 10pm on a Sunday Night and 6pm on a Monday morning, to avoid any interruptions of the running of the existing school; times to be agreed with school management.	1	item			
J	Provide plywood protective cover over boiler for protection.	1	item			
	Unload, hoist distribute, and place in position the following items of plant and equipment:					
K	Gas boiler	1	item			
L	Heat pumps	1	item			
M	Pumps	1	item			
	Sundries & Builders Work					
	General					
N	Marking positions of holes, mortices and chases	1	item			
P	Testing & Commissioning	1	item			
Q	Preparing drawings of "as completed" installations	1	item			
R	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
S	Keys, tools and spares	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	In-situ concrete; plain; to IS EN 206; Grade C30; formwork to sides of platform, powerfloating finish; all in strict accordance with the Engineers Drawings and Specification					
	Bases					
A	Size 850mm x 1650mm x 100mm thick	1	nr			
B	Size 1850mm x 1100mm x 100mm thick	1	nr			
C	Size 2650mm x 1850mm x 100mm thick	1	nr			
	Equipment supports; provide mounting grounds for the installation of the following fittings; making good structure and finishes; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
	Equipment supports					
D	Provide wall fixings for portable fire extinguishers to walls at 1500mm above floor	2	nr			
	Forming or cutting holes; including sleeves/plates, making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
E	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
F	cutting or forming opes is deemed to include the making good and sealing of the ope around the pipe or duct		note			
	For ducts/pipes through exisitng external cavity blockwork wall, include for building in sleeves; weather proofing, making good all finishes on completion					
G	Size 1000mm x 250mm opes	1	nr			
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification and Drawings					
	Special works were services pass through structures; external walls, making good all finishes on completion					
H	Size 1000mm x 250mm opes	1	nr			
				To Collection €		

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.4/7					
Page No. Lot 8.4/8					
Page No. Lot 8.4/9					
Page No. Lot 8.4/10					
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Page No. Lot 8.4/21					
Page No. Lot 8.4/22					
Page No. Lot 8.4/23					
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Page No. Lot 8.4/26					
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Page No. Lot 8.4/29					

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.4/30					
(5-) MECHANICAL INSTALLATION **Carried to Summary**					

					€	c
	(6-) ELECTRICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Alterations to existing switch board MDB-1 to facilitate the diversion existing sub-mains to new MSB; allow for safe isolation and disconnection and reconnection of exisitng submains to new MSB; Include all isolation, shutdown coordination, and commissioning; all in strict accordance with Electrical Specification and Drawing E-6000	1	item			
C	Alterations to existing switch board MDB-2 to facilitate the diversion existing sub-mains to new MSB; allow for safe isolation and disconnection and reconnection of exisitng submains to new MSB; Include all isolation, shutdown coordination, and commissioning; all in strict accordance with Electrical Specification and Drawing E-6000	1	item			
D	Alterations to existing PV system to facilitate to facilitate the diversion existing sub-mains to new MSB; allow for safe isolation and disconnection and reconnection of exisitng submains to new MSB; Include all isolation, shutdown coordination, and commissioning; all in strict accordance with Electrical Specification and Drawing E-6000	1	item			
	Notes					
E	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
F	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES					
	(61) ELECTRICITY SUPPLY & MAIN DISTRIBUTION - LV INSTALLATIONS					
	System					
	LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
B	LV Installations	1	item			
	Equipment					
	Main Switch Distribution Board; supply and installation; complete; Enclosure Type: Form 4B Type 2; Material Body: Electro galvanised iron-phospated steel plate; Frame: 2.5mm thick steelwork, Doors/covers: 2mm steelwork, Finish: epoxy self etching filler primer undercoat, 2nr stove enameled synthetic paint finishing coats; Colour: Light grey, RAL 7035, powder lacquered; Cable Entry: bottom; Cable Exit: Top; IP Rating: IP54; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; HOA switches, Integral isolating switches, CTU's, open/closed contractors; remote key switches, phase indicator lamps, time clocks, metering, surge protection, space for future power factor correction equipment and automatic changeover; earth terminal; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in accordance with the Electrical Project Particular Specifications and Drawing E-6000					
C	Distribution board; Ref: MSB; Location: Switch room	1	nr			
	Fittings					
D	Isolation device; supply and installation; complete; terminating of incoming and outcoming cabling; all in accordance with the Electrical Specifications					
E	Isolation device; 63A SPN	1	nr			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	4	nr			
	Rubber Mat; supply and installation; complete; The contractor shall supply and install a suitable slim rubber mat for each LV switchboard complying with BS 91 - 1976 adjacent each switchboard. The mat shall be 1 metre wide and shall run the complete length of the main switchboard and shall be fixed securely to avoid potential trip hazards; all in accordance with the Electrical Specifications					
B	Insulated matting; Ref: MDB-1, Existing	1	nr			
C	Insulated matting; Ref: MDB-2, Existing	1	nr			
D	Insulated matting; Ref: MSB	1	nr			
	Main switchboard circuit chart; 'A1' framed drawing of the switchboard to be installed within the switch room; the drawing shall be framed with a perspex cover; include for all accessories; in strict accordance with the Electrical Specification					
E	Main switchboard; Ref: MSB	1	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
F	Circuit charts to switch boards; Ref: MDB-1	1	nr			
G	Circuit charts to switch boards; Ref: MDB-2	1	nr			
	Health Safety & Shocks Chart; the contractor shall provide an 'Electrical Review' First Aid Chart, 508 mm x 381 mm, wall chart of Instructions for Dealing with Electric Shock, located alongside each LV switchboard, These shall be printed in red and black, sheathed in plastic; all in accordance with the Electrical Specifications					
H	Health Safety & Shocks Chart	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from MSB; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: --; MSB to BMS Panel; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
B	Submains Ref: 10; MSB to ASHP01; 4 x 150sq.mm XLPE/SWA/LSF + 95sq.mm CPC	1	item			
C	Submains Ref: 10; MSB to ASHP02; 4 x 150sq.mm XLPE/SWA/LSF + 95sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
D	General earthing and bonding	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

(6-) ELECTRICAL INSTALLATION (Cont)

(62) POWER - CONTAINMENT

System

Cable ladder/ tray/ trunking installation, testing and commissioning; complete; The Contractor must allow for the supply and installation of a complete cable support system using cable tray, trunking, conduit and support steelwork as shown on the drawings and as detailed in the specification. The Contractor shall include for all incidental cable containment which may not be shown on the drawings but which may be required to effect cable routes to individual items of equipment, luminaires etc; include for all joints, fixing brackets and supports; all exposed and extraneous conductive parts are to be boned and properly earthed in accordance with current wiring regulations; all in accordance with the Electrical Engineers Specification and Drawings E-6001

A	Cable Tray; Submains; heavy duty galvanised steel; size 200mm wide x 60mm high; complete	1	item		
B	Cable Basket; CAT 6A cable; heavy duty galvanised steel; size 100mm x 65mm wide; complete	1	item		
C	Conduit; galvanised steel; size 25mm diameter; complete	1	item		
D	Conduit; galvanised steel; size 50mm diameter; complete	1	item		
E	Conduit; flexible steel; size 25mm diameter; complete	1	item		

General Earthing and Bonding

General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification

F	General earthing and bonding	1	item		

General

Testing and commissioning; all in accordance with Engineers Specification

G	Testing and commissioning; complete	1	item		

Operating and maintenance manuals; all in accordance with Engineers Specification

H	Operating and maintenance manuals; complete	1	item		

Working drawings; all in accordance with Engineers Specification

J	Working drawings; complete	1	item		

Co-ordination drawings; all in accordance with Engineers Specification

K	Co-ordination drawings; complete	1	item		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like; complete	1	item			
	(62) POWER - GENERAL SERVICES					
	System					
	General Services and small power installation, testing and commissioning; complete; to include vampire load design strategy; all in accordance with the Electrical Specification and Drawings ME-5801					
C	General Services Installation	1	item			
	Accessories associated with terminal equipment					
	Isolation device; supply and installation (including wiring); complete; surface mounting; include for all accessories and fixings; c/w galvanised steel back boxes; include for all accessories and fixings; all in strict accordance with the Electrical Specification					
D	16amp SPN Isolator	8	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
H	Working drawings	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with Engineers Specification					
A	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
B	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
C	Identification plates, labels and the like	1	item			
	(65) PROTECTIVE SERVICES - EARTHING AND BONDING					
	System					
	Earthing and Bonding; installation; testing and commissioning; The Electrical Contractor shall supply, install, test and commission a complete earthing and bonding system in accordance with the Electricity Supply Company requirements, current best practice, I.S. 10101, this Specification and Drawings. The Electrical Contractor shall form an equipotential zone in the building to provide protection against indirect contact, by bonding all extraneous and exposed conductive parts to the main earth terminal; all in accordance with the Electrical Engineers Specification and drawing E-6000					
D	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
E	Main Earth Terminal Bar	1	nr			
	Main earth conductor cable; supply and installation complete; 95mm2 LSF green/ yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
F	Earth terminal bar to earth pits	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Main earth conductor cable; supply and installation complete; Cable 95mm2 LSF green/yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
A	From MSB to earth terminal bar	1	item			
	Main equipotential earth bonding; Cable: 95mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
B	Incoming Water Main	1	item			
C	Incoming Gas Main	1	item			
D	Metal drainage pipes	1	item			
E	Structural Steelwork	1	item			
F	Main Heating Pipework	1	item			
G	Main Ventilation Ductwork	1	item			
H	Lightning Protection System	1	item			
J	Lift shaft steel work	1	item			
K	Eircom DP	1	item			
	Main equipotential earth bonding; Cable: 16mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
L	Earth terminal bar to Comms cabinets	1	item			
	Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations; all in accordance with the Electrical Engineers Specification					
M	Metallic Wireways and Containment	1	item			
N	Suspended Ceiling Grids	1	item			
P	Wash Hand Basins	1	item			
Q	Showers	1	item			
R	Sinks	1	item			
S	WC's	1	item			
T	Cleaners Sinks	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Catering equipment	1	item			
B	Metal worktops	1	item			
C	Plant room Pipework	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
D	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	(65) SECURITY & PROTECTION - SURGE PROTECTION					
	System					
	Transient & Over voltage Protection installation, testing and commissioning; TSurge Protection Devices (SPDs) shall be installed in switchboards and distribution boards as described below to suppress over voltages and transients due to network disturbances and or lightning strikes. Class 1 & 2 SPDs shall be fitted to each main switchboard at supply the intake point. Class 2 SPDs shall be fitted downstream at each local distribution board. These units shall be rail mounted within a dedicated compartment of the switchboard or distribution board. SPDs shall comply with IEC/EN 61643 11:2012 guidelines; all in accordance with the Electrical Engineers Specification and Drawing E-6000					
A	Transitent & Overvoltage Protection	1	item			
	Fittings					
	Surge Suppression Devices; installation (including wiring); complete; all in strict accordance with the Electrical Engineers Specification					
B	Surge Protection Type 3; ASHP01 submains	1	item			
C	Surge Protection Type 3; ASHP02 submains	1	item			
D	Surge Protection Type 4; MSB	1	item			
E	Surge Protection Type 5; MDB-1 submains	1	item			
F	Surge Protection Type 5; PV submains	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
G	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
H	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
J	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
K	Working drawings	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with Engineers Specification					
A	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
B	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
C	Identification plates, labels and the like	1	item			
	(68) MECHANICAL WIRING INSTALLATIONS					
	Mechanical Wiring Installation; testing and commissioning; complete; Electrical Contractor must provide and issue as installed drawings for all electrical cabling associated with mechanical services. All wiring for mechanical services must be carried out under this contract to include wiring for heating, ventilation etc. The wiring to all mechanical devices must be taken from dedicated MCC (motor control center) panels supplies; all in accordance with the Mechanical and Electrical Specification and Drawing M-5101					
D	Mechanical Wiring Installation	1	item			
	Fittings					
	Gas detection system mechanical wiring provisions and final connections (ONLY); installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV control wiring cables to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Mechanical and Electrical Specification					
E	Gas detection control panel (Location: Boiler room)	1	nr			
F	40mm dia Gas solenoid valve	1	nr			
G	Emergency Stop Button	1	nr			
H	Gas detector	1	nr			
J	Heat detector	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Frost protection mechanical wiring provisions and final connections (ONLY); installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV control wiring cables to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Electrical Engineers Specifications					
A	Oil filled Electric radiator; Size 1000mm long x 500mm high; Output 1000w	1	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers					
B	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers Specification Documents					
C	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers Specification Documents					
D	Operating and maintenance manuals; complete	1	item			
	Working drawings; all in accordance with the Electrical Engineers Specification Documents					
E	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers Specification Documents					
F	Co- ordination drawings;complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers Specification Documents					
G	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers Specification Documents					
H	Identification plates, labels and the like; complete	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	(68) BMS WIRING INSTALLATIONS					
	System					
	BMS Wiring Installation; testing and commissioning; complete; Electrical Contractor must provide and issue as installed drawings for all electrical cabling associated with mechanical services. All wiring for mechanical services must be carried out under this contract to include wiring for heating, ventilation etc. The wiring to all mechanical devices must be taken from dedicated MCC (motor control center) panels supplied as a 'Free Issue' item by the Mechanical Contractor as part of the BMS installation, and must be installed and connected up by the electrical contractor. Generally, the MCC panels must be installed in boiler houses, plant rooms, etc.; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
A	BMS Wiring Installation	1	item			
	Equipment					
	Mechanical Control Panel; Mechanical and BMS wiring installation, testing and commissioning; complete; The Contractor shall allow for all wiring associated with the installation of the MCC and BMS outstations; The Contractor shall allow for all switchgear as indicated on the electrical services connection schedules and reflected on the electrical services layouts; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
B	Mechanical Control Center; Ref: MCC Panel, Location: Boiler Room	1	item			
	Fittings					
	BMS final connections and wiring installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV / control wiring cables fed from the BMS panel (Location: exisitng school plant room) to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Electrical Engineers Specifications and Drawing ME-5801					
C	Point 002; Fire Alarm Interface	1	nr			
D	Point 003; CAT 6A to local Comms cabinet	1	nr			
E	Point 004; MDB surge protection alarm signal	1	nr			
F	Point 005; Boiler supply (B1)	1	nr			
G	Point 006; Enable/ Fault	1	nr			
H	Point 007; Boiler supply (B2)	1	nr			
J	Point 008; Enable/ Fault	1	nr			
K	Point 009; Pressurissation unit supply (PU1)	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 010; High/Low level Fault	1	nr			
B	Point 011; LPHW (P1) - Primary circuit	1	nr			
C	Point 012; Enable/ Fault	1	nr			
D	Point 013; LPHW (P2) - Circuit 1	1	nr			
E	Point 014; Enable/ Fault	1	nr			
F	Point 015; Heat meter supply - Boiler	1	nr			
G	Point 016; Heat meter pulsed signal	1	nr			
H	Point 017; Heat meter supply - Heat Pump	1	nr			
J	Point 018; Heat meter pulsed signal	1	nr			
K	Point 019; Gas Detection Panel	1	nr			
L	Point 020; Valve Position /Ststus	1	nr			
M	Point 021; Outdoor Air Temp Sensor (north wall)	1	nr			
N	Point 022; ASHP primary flow immersion temp sensor	1	nr			
P	Point 023; ASHP primary return immersion temp sensor	1	nr			
Q	Point 024; ASHP flow high limit stat	1	nr			
R	Point 025; Boiler primary flow immersion temp sensor	1	nr			
S	Point 026; Boiler primary return immersion temp sensor	1	nr			
T	Point 027; Boiler flow high limit stat	1	nr			
U	Point 028; LPHW heating circuit flow temp sensor (P1)	1	nr			
V	Point 029; LPHW heating circuit return temp sensor (P1)	1	nr			
W	Point 030; LPHW buffer vessel temp sensor	1	nr			
X	Point 031; LPHW buffer outlet flow temp sensor	1	nr			
Y	Point 032; LPHW buffer outlet return temp sensor	1	nr			
Z	Point 033; Mains water incoming meter (pulsed signal)	1	nr			
AA	Point 034; LPG gas meter boiler supply (pulsed signal)	1	nr			
BB	Point 035; Run on timer - circuit 1	1	nr			
CC	Point 036; Run on timer - circuit 2	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 037; Run on timer - circuit 3	1	nr			
B	Point 038; Run on timer - circuit 4	1	nr			
C	Point 039; Modbus interface to ASHP1	1	nr			
D	Point 040; Modbus interface to ASHP2	1	nr			
E	Point 041; Electrical switchboard meters (MODBUS)	1	nr			
F	Point 042; Future - power & control cable to temp stats	1	nr			
	Final Circuits (including all points terminations)					
	Final Circuits; installation, testing and commissioning; Complete; Final circuits shall be fed from local sub-distribution board; Installation: Sub-circuit wiring 4c 2.5mm2 LSZH & 2.5 CPC; shall be drawn in concealed galvanized steel conduit and/or galvanized steel trunking; all in accordance with the Electrical Engineers Specification and Control points schedule					
	Final Circuits - BMS Panel					
G	Power - Boiler (B1)	1	nr			
H	Power - Boiler (B2)	1	nr			
J	Power - Pressurisation Unit (PU1)	1	nr			
K	Power - LPHW (P1) - Primary circuit	1	nr			
L	Power - LPHW (P2) - Circuit 1	1	nr			
M	Power - Heat meter supply - Boiler	1	nr			
N	Power - Heat meter supply - Heat Pump	1	nr			
P	Power - Gas Detection	1	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
Q	General Earthing and Bonding; complete		item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers Specification Documents					
R	Testing and commissioning; complete		item			
				To Collection €		

	(6-) ELECTRICAL INSTALLATION (Cont)					
	Operating and maintenance manuals; all in accordance with the Electrical Engineers Specification Documents					
A	Operating and maintenance manuals; complete		item			
	Working drawings; all in accordance with the Electrical Engineers Specification Documents					
B	Working drawings; complete		item			
	Co-ordination drawings; all in accordance with the Electrical Engineers Specification Documents					
C	Co-ordination drawings;complete		item			
	As built drawings; all in accordance with the Electrical Engineers Specification Documents					
D	As built drawings; complete		item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers Specification Documents					
E	Identification plates, labels and the like; complete		item			
	ELECTRICAL INSTALLATIONS					
	Sundries and Builders Work					
	General Attendances					
F	Provide all general attendances in accordance with Arm 4.	1	item			
G	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
H	Provide use of the Main Contractors scaffolding.	1	item			
J	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
K	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
L	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
M	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
B	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
C	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
D	Include for unloading, hoisting/cranage and placing into position all items of heavy plant supplied by the subcontractors.	1	item			
E	Allow for maintaining all ducts, chases , trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
F	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
G	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
H	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
J	Provide all special attendances in accordance with Arm 4 Work Section B Clause 3.1	1	item			
K	Provide temporary access roads and hardstanding in connection with heavy items of plant and the like, forming part of the site establishment works	1	item			
L	Provide scaffolding internal and external to the building to facilitate installation of high-level electrical services during the contract	1	item			
M	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
N	Provide adequate barriers/tape/signage of exclusion zoning in relation to use of access equipment and ACOPs for working at height	1	item			
P	Provide construction signage (internal and external) in relation to M&E services e.g live systems etc.	1	item			
Q	Provide temporary lighting and power in accordance with IS10101 Wiring Regulations.	1	item			
R	Provide protection to all M&E services installations installed during the works including protection against debris and water ingress	1	item			
S	Provide fire stopping to all electrical services on the vertical and horizontal planes throughout the entire buildings	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Ensure close coordination during the building phase to ensure electrical, ventilation and mechanical services are installed and integrated within the building fabric as designed.	1	item			
B	Provide grounds and fixings for suspension of Electrical services; Electrical loading = 10kg/m Mechanical loading = 40kg/m	1	item			
C	Provide boxing out of containment and pipework as necessary, boxing to be accessible with screwed access.	1	item			
D	Main contractor shall employ a full time M&E Co-ordinator for the duration of the contract works and their duties shall include but not limited to details set out within the specification A2.4 Part 1 of 4 particular specification document	1	item			
E	Contractor shall be aware that drawings are indicative only including the minimum ope sizes; It will be the contractors responsibility in conjunction with their in-house M&E services coordinator to produce construction stage builders works drawings for DT comment	1	item			
F	Provide safe access and task lighting for electrical sub-contractor to all sections of school roofspace	1	item			
G	Provide safe access for electrical sub-contractor to all sections of the site	1	item			
H	The M&E installation within the SEN accommodation is to be a fully recessed installation. The contractor shall include for casting in of all electrical services and recessing of all radiators within the wall panels	1	item			
J	Seal all incoming services to prevent ingress of vermin	1	item			
K	Fire Stopping to all services penetrations throughout	1	item			
L	Attendance to electrical sub-contractor	1	item			
M	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
N	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
P	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
Q	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
R	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
S	Provide temporary power supplies (3 phase 400V and maximum loading 15kVA) for welding, handtools, and for commissioning, including infrastructure and all charges fot the contractors use of the facility.	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide scaffolding additional to the main contractors standing scaffolding, or access towers if required.	1	item			
B	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day	1	item			
C	Provide facilities for safe removal and disposal of all materials off site	1	item			
D	Provide a week by week program detailing the Mechanical and Electrical service activities	1	item			
E	Provide for heating / drying out the building as and when necessary to comply with their program. This may be done (at the clients specific consent) with the installed conventional heating system (if available). Be responsible, however, for providing the fuel to do this. Be responsible for maintaining background heat until the building is handed over to the client, after the heating system has been commissioned	1	item			
F	Provide and maintain the specific temperatures and humidity levels	1	item			
G	Provide Builders Attendances to all utility services as follows; Gas Networks Ireland, Eir, Virgin Media, Local Authority, ESB Networks.	1	item			
H	Fire stopping requirements of all services penetrations through fire compartment structures to be the responsibility of the building contractor. In addition, all pipework, ductwork, containment and service penetrations shall be fire-stopped where passing through every wall, floor and ceiling regardless if its a fire compartment or not by main contractor. Refer to M&E services drawings indicating main routes of M&E infrastructure. All instances of firestopping shall be labelled and certified using CE certified products including fire-pillows for use inside electrical trunkings.	1	item			
	Unload, hoist, distribute and place in position the following items of heavy plant and equipment					
J	Main switch board	1	item			
K	Sub-distribution boards	1	item			
L	MCC panel	1	item			
M	Containment	1	item			
N	Cabling	1	item			
P	Lighting	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Sundries & Builders Work					
	General					
A	Marking positions of holes, mortices and chases	1	item			
B	Testing & Commissioning	1	item			
C	Preparing drawings of "as completed" installations	1	item			
D	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
E	Keys, tools and spares	1	item			
	Forming or cutting holes/mortices/chases and the like; including sleeves/plates, intumescent collars; making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
F	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
G	cutting or forming opes is deemed to include the making good and sealing of the ope		note			
	Cutting or forming holes through existing external walls various thicknesses; include for building in sleeves; making good all finishes on completion					
H	600mm x 150mm opes	1	nr			
	Cutting or forming holes through existing internal walls various thicknesses; include for building in sleeves; making good all finishes on completion					
J	200mm x 150mm opes	1	nr			
K	600mm x 150mm opes	3	nr			
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification P12					
	Special works were services pass through structures; existing external walls various thicknesses, making good all finishes on completion					
L	600mm x 150mm opes	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Special works were services pass through structures; existing internal walls various thicknesses, making good all finishes on completion					
A	200mm x 150mm opes	1	nr			
B	600mm x 150mm opes	3	nr			
				To Collection €		

				€	c
(6-) ELECTRICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.4/33					
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Page No. Lot 8.4/40					
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Page No. Lot 8.4/49					
Page No. Lot 8.4/50					
Page No. Lot 8.4/51					
Page No. Lot 8.4/52					
Page No. Lot 8.4/53					
(6-) ELECTRICAL INSTALLATION **Carried to Summary**					

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND					
	EXCAVATION AND EARTHWORK					
	Excavation					
	Excavation					
	Reduce levels					
A	Depth between not exceeding 2.00m	20	m3			
	Extra on Excavation Items for:					
	Breaking up existing					
B	Hard surfaces; Tarmacadam surface; 100mm thick; complete	29	m2			
	Disposal					
	Water					
C	Surface	1	item			
D	Ground	1	item			
	Excavated material; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
E	Disposal off site	18	m3			
F	Disposal off site; existing Tarmac; Disposal to a suitable licensed waste disposal facility	3	m3			
	Filling with hardcore to be obtained off-site; clean angular gravel 20mm, free from pyrite and macarsite as per specification					
	To make up levels					
G	Average thickness not exceeding 250mm	3	m3			
	Filling with hardcore to be obtained off-site; Clause 804 crushed stone well compacted on firm clean formation; compliant with TII Publications series 800, free from pyrite and macarsite as per specification					
	To make up levels					
H	Average thickness not exceeding 250mm	3	m3			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Filling with granular fill material to be obtained off-site; Class 6F2 compliant with TII Publications series 600, free from pyrite and macarsite; depositing in 150mm layers maximum thickness; compacting; as per Drawings and Specification					
	To make up levels					
A	Average thickness exceeding 250mm	9	m3			
	Surface treatments					
	Levelling and compacting; bottom of excavations					
B	Horizontal	29	m2			
	CONCRETE WORK					
	In-situ Concrete					
	Concrete cubes for testing					
	Provide for making concrete cubes from freshly mixed concrete; transporting and testing cubes; all as per details in the Specification					
C	Size 150 x 150 x 150mm	1	nr			
	In-situ Concrete; Reinforced					
	Grade C40/5-XF4 to IS EN 206					
	Beds					
D	Generally; Reinforced	6	m3			
	Surface Finishes					
	Brushed finish to wet concrete as per Specifications					
E	Generally	29	m2			
	Reinforcement					
	Fabric					
	A252 mesh reinforcement; 350mm laps; 350mm end laps; all in strict accordance with the Engineers Drawings and Specification					
F	Horizontal	29	m2			

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Formwork					
	Formwork Generally					
	Sides of beds					
A	Height or width 250 - 500mm	29	m			
B	Extra over for forming recess in floor slab for district heating pipe; comprising 65mm dia x 400mm deep recess; include for cutting to all angles and corners	5	nr			
	SURFACE PAVINGS, FENCING AND LANDSCAPING					
	Fencing					
	Paladin Fencing; Steel mesh and wire fence to I.S. EN 10223, comprising striped mesh using 6mm horizontal wire at 145mm centres, reducing to 50mm centres on the V crimp, 4 mm wires structured with 2 No. wires at 40mm centres and 4 No. wires at 20mm centres to give a striped effect; all finished in polyester powder coating to I.S. EN 15773 & I.S. EN 12206; include for 60 x 60 x 2mm hot dipped galvanized steel posts to I.S. EN9 ISO 1461: 199 after fabrication and subsequently eletrostatically powder coated in a plant conforming to EN 1722 Part 16; post centres maximum 2080 mm; fixings: steel clips with 8 mm anti-vandal bolts; 350 x 350 x 600mm Grade C30/37 concrete bases set 100mm below ground level; all as per Specification and Drawings					
	Paladin Fencing System					
C	1800mm high above ground level	20	m			
	Extra over for					
D	Angle posts; 60x60x2 SHS posts, 1800mm high above ground level and 900mm below ground level; set in 450x450x600mm deep concrete grade C28/35 base	4	nr			
	Gates					
E	Single gate; opening size approx 1000 x 1800mm high	2	nr			
	100x100x10 SHS hot dipped galvanised SHS powder coated post; gate posts set in 1000x1000x1000mm C28/35 concrete pocket; top of concrete 300mm below ground level; galvanised to Specification and polyester powder coating to Specification in selected colour, colour to be chosen by the Architect from samples provided on site by the Contractor; complete					
	Gate Posts					
F	100 x 100 SHS posts; 1800mm high above ground level and 900mm below ground level; min 600mm embedment in concrete	4	nr			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Reflective Acoustic Post and Panel Fencing; Birkdale DuraPost or equivalent, comprising of commercial DuraPosts constructed from cold rolled pre-galvanised (DX51D Z275NA-C) steel, manufactured to EN 10346. Treated Redwood Acoustic Timber Boards constructed from 70% PEFC Certified 200mm x 47mm slow-grown redwood boards. The rebated capping is constructed from 85mm x 35mm twice weathered 70% PEFC Certified slow-grown redwood. EPDM Rubber Seal 10mm thick x 50mm wide Cellular Adhesive EPDM Sponge Strip. A general purpose sponge rubber with excellent resistance. Static Load Testing; 1447kg / 14.2kN. Acoustic Rating; 28dB Reduction. ass/M2 (Timber Boards) 23.7kg/M2. 350 x 350 x 600mm Grade C30/37 concrete bases set 100mm below ground level; all as per Specification and Drawing					
	Acoustic Paladin Fencing System					
A	2400mm high above ground level	10	m			
	Extra over for					
B	Angle posts; 60x60x2 SHS posts, 2400mm high above ground level and 900mm below ground level; set in 450x450x600mm deep concrete grade C28/35 base	4	nr			
	Gates					
C	Single gate; opening size approx 1000 x 2400mm high	1	nr			
	100x100x10 SHS hot dipped galvanised SHS powder coated post; gate posts set in 1000x1000x1000mm C28/35 concrete pocket; top of concrete 300mm below ground level; galvanised to Specification and polyester powder coating to Specification in selected colour, colour to be chosen by the Architect from samples provided on site by the Contractor; complete					
	Gate Posts					
D	100 x 100 SHS posts; 2400mm high above ground level and 900mm below ground level; min 600mm embedment in concrete	2	nr			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Ball stop netting (over gas compound); Description: Ball stop netting system installed over the full area of the gas tank compound, fixed to and supported from the top of paladin fencing, including all necessary supports, cables, brackets and fixings; Manufacturer: Submit proposals; Performance: Complete external system to prevent ingress of balls; Contractor to design system including supports and fixings; Allow for wind loading and avoid overloading fence, provide independent supports if required; Maintain safe clearances to all gas infrastructure and access routes; Netting; Material: UV stabilised HDPE or polypropylene; Colour: Black or green; Mesh size: Max 48 mm; Twine: Min 3 mm; Cables and fixings: Stainless steel or galvanised steel support cables with tensioning gear, non-corroding proprietary fixings; Support steelwork: Galvanised steel brackets/arms as required; Execution: Install taut and secure to manufacturer#s recommendations; Provide access/demountable sections where required; Do not overstress or modify fence without approval; Submittals: Product data, layout drawings and structural calculations.; all as per Specification and Drawing					
	Ball stop netting					
A	Exceeding 300mm wide	24	m2			
				To Collection €		

				€	c
(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
COLLECTION					
Page No. Lot 8.4/55					
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Page No. Lot 8.4/58					
Page No. Lot 8.4/59					
(30) SITE ENCLOSURES - PLANT COMPOUND **Carried to Summary**					

					€	c
	(50) SITE SERVICES - GAS					
	DRAINAGE/SERVICES - GAS MAIN					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 1nr duct not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported compacted stone fill; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations; as per Engineer's Drawing					
C	Average Depth 500 - 1000mm	25	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
D	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	25	m			
	Around existing services crossing excavations					
E	Storm pipe; crossing excavations	3	nr			
F	Foul pipe; crossing excavations	2	nr			
G	ESB; crossing excavations	2	nr			
	Disposal					
H	Ground Water	1	item			
J	Surface Water	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES - GAS (Cont)					
	Sand bed and surround; to Engineer's Specification					
	Beds and surrounds					
A	290 x 215mm, to 90mm pipes / ducts	25	m			
	PVC marker tape "Heptape" or equivalent					
B	Continuous strip laid during trench backfill, 100mm above pipework	25	m			
	Mechanical Installations					
	Gas pipework as per Engineer's Specification & Gas Suppliers details; complete					
	Pipework					
C	Installation only of gas pipework; size: 90mm; pipe to be supplied by Gas Supplier; complete	25	m			
	Tank					
D	Contractor to provide attendances to supplier of 2000L Gas Tank; complete	1	nr			
	MECHANICAL INSTALLATIONS					
	Generally					
	General; complete; refer to M&E Drawings, M&E Mechanical Engineering General Specification					
	General					
E	Testing and commissioning; all in accordance with Engineers specification documents and drawings	1	Item			
F	Operating and maintenance manuals; all in accordance with Engineers specification documents and drawings	1	Item			
G	Working drawings; all in accordance with Engineerss specification documents and drawings	1	Item			
H	Co- ordination drawings; all in accordance with Engineers specification documents and drawings	1	Item			
J	As built drawings; all in accordance with Engineers specification documents and drawings	1	Item			
K	Identification plates, labels and the like; all in accordance with Engineers specification documents and drawings	1	Item			

To Collection €

					€	c
	(50) SITE SERVICES - GAS (Cont)					
A	Builderswork; forming and cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels etc. and amking good, all in accordance with Engineers specification documents and drawings	1	Item			
B	Fire stopping and other associated fire protection works; all in accordance with Engineers specification documents and drawings	1	Item			
				To Collection €		

				€	c
(50) SITE SERVICES - GAS (Cont)					
COLLECTION					
Page No. Lot 8.4/61					
Page No. Lot 8.4/62					
Page No. Lot 8.4/63					
(50) SITE SERVICES - GAS **Carried to Summary**					

					€	c
	(50) SITE SERVICES - DISTRICT HEATING					
	DRAINAGE/SERVICES - DISTRICT HEATING					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr duct not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported compacted stone fill; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations; as per Engineer's Drawing					
C	Average depth 500 - 1000mm	2	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
D	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	2	m			
	Around existing services crossing excavations					
E	Storm pipe; crossing excavations	1	nr			
F	Foul pipe; crossing excavations	1	nr			
G	ESB; crossing excavations	1	nr			
	Disposal					
H	Ground water	1	item			
J	Surface water	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES - DISTRICT HEATING (Cont)					
	Sand bed and surround; to Engineer's Specification					
	Beds and Surrounds					
A	525 x 250mm; to 2nr 125mm duct	2	m			
	PVC marker tape; "Heptape" or equivalent					
B	Continuous strip; laid during trench backfill; 100mm above pipework	2	m			
	Ductwork					
	125mm diameter					
C	Laid in trenches	4	m			
D	Extra over for easy sweep bends	2	nr			
	MECHANICAL INSTALLATIONS					
	Generally					
	General; complete; refer to M&E Drawings, M&E Mechanical Engineering General Specification					
	General					
E	Testing and commissioning; all in accordance with Engineers specification documents and drawings	1	Item			
F	Operating and maintenance manuals; all in accordance with Engineers specification documents and drawings	1	Item			
G	Working drawings; all in accordance with Engineerss specification documents and drawings	1	Item			
H	Co- ordination drawings; all in accordance with Engineers specification documents and drawings	1	Item			
J	As built drawings; all in accordance with Engineers specification documents and drawings	1	Item			
K	Identification plates, labels and the like; all in accordance with Engineers specification documents and drawings	1	Item			
L	Builderswork; forming and cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels etc. and amking good, all in accordance with Engineers specification documents and drawings	1	Item			
M	Fire stopping and other associated fire protection works; all in accordance with Engineers specification documents and drawings	1	Item			

To Collection €

				€	c
(50) SITE SERVICES - DISTRICT HEATING (Cont)					
COLLECTION					
Page No. Lot 8.4/65					
Page No. Lot 8.4/66					
(50) SITE SERVICES - DISTRICT HEATING **Carried to Summary**					

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by Semple McKillop Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
				To Collection €		

(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)

ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS

(50) SITE SERVICES (MAINLY MECHANICAL) - HEAT PUMPS

System

External Air source Heat Pump installation, testing and commissioning; complete with all associated plant, pipework, valves, controls, insulation, frost protection, fully integrated with the building heating system; The heating system shall be flushed and provided with appropriate chemical treatment; The contractor shall provide, prior to handover, a commissioning certificate to confirm that correct treatment has been carried out; all in strict accordance with the Mechanical Engineers Specification Volume 1; Volume 2; Volume 3; Volume 4 and Drawings M-5601

Primary Equipment

Air Source Heat Pump; The Contractor shall supply, install, test and commission packaged high efficiency, low noise, electric Air Source Heat Pump; complete; Heating Capacity (kW): 20kW; CoP (W/W): 2.7; SCoP (W/W): 3.43; Efficiency (%): 117; Compressor Type: Scroll or Scew; Minimum Number of Compressors: 2; Source Heat Exchanger: Cu/Al pipes and fins with hydrophilic coating #Blue Fins#; User Heat Exchanger: Braze Welded Plate, Heat Exchanger (AISI 316 Stainless Steel) c/ w closed cell insulation and discharge temp sensor for anti-freeze protection; Refrigerant Type: R290; Outdoor Air Temp (øC): -3.0; Outdoor Relative Humidity (%): 80; Fluid Type: Water; In/Out Fluid Temp (øC): 50.0 / 55.0; Super Low Noise: Required; Max Fan RPM: 900 (low noise); Construction: Galvanised Sheet Steel painted with polyurenate powder enamel c/w removable panels; Control & rotection Devices: Required; Control Panel: Microprocessor based c/w display showing all operational icons and connections for MODBUS protocols; Serial Interface Card RS485: Required to allow the controller to communicate using Modbus Protocol; Head Pressure Control: This device, using a pressure probe installed on the source heat exchanger, controls the fan speed with respect to the ambient conditions; Accessories: Rubber Antivibration feet/pad, Condensate Drip Tray, Anti Freeze Kit, Pressure Gauges, Master / Slave Cascade Control system, Outdoor Air Temperature Sensor for Weather Compensation, Hydraulic Kit comprising centrifugal circulating pump c/w safety valve & fill/drain point; Defrost: Method Reverse Cycle; Defrost Control: Sensor for outdoor temperature; Warranty: 5 year parts and labour; include for all accessories; all in strict accordance with the Mechanical Engineers Equipment Schedule no. 1.1

To Collection €

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(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
Warranty Requirements: The Tenderer shall ensure that all heat pump equipment supplied and installed under this contract is covered by a minimum warranty period of five (5) years post date of substantial completion.The warranty must ensure cover of:#Compressor, refrigerant circuit, heat exchangers, controls, and all major components#Labour, parts, diagnostics, and call outs for warranty repairs#No exclusions applied since operating due to typical operating profiles defined in this documentWarranty validity shall be dependent upon:#Correct system design and installation#Proper commissioning by competent personnel#Operation within the design parameters described below#Compliance with the maintenance regime set out in this section#Internet connection for continuous diagnostics (applicable to certain manufacturers)Where longer manufacturer warranties or reduced frequency service requirements are available at no additional cost, or at a cost saving, the Tenderer must include these within the tender. Service & Maintenance Requirements: The Tenderer shall allow for the minimum maintenance regime for the installed heat pump system in the tender pricing in order to maintain the 5-year warranty. Service Frequency# One service visit preferably every two (2) years, unless the equipment manufacturer explicitly requires a shorter interval (minimum one (1) year).(Tenderers shall only price for annual servicing if supported by documented manufacturer requirements.)#It is in the Tenderer#s interest to negotiate with heat pump manufacturers for longer service intervals in order to price their bid competitively."Minimum Service Scope (Biennial Visit): Each service visit must include at minimum:# Inspection and performance review of the refrigerant circuit# Verification of electrical connections and controls# Checks on hydraulic conditions (flow rates, pressures, pump performance)# Cleaning of filters, strainers, and debris screens# Cleaning of coil and fins. # Verification of correct operation, setpoints, and system sequencing# Review of system logs and operational history to confirm stable operationMaintenance must be carried out by competent personnel and appropriately recorded.Tenderers, must include all maintenance requirements to maintain the heat pump warranty for the 5 year period post substantial completion, in their tender pricing. Normal Design & Operating Parameters:For warranty purposes, #normal design conditions# refer to operation within the system#s intended thermal and hydraulic envelope, including:Project Specific OperationFor the installations considered in this project:# Systems are designed for ~55øC flow temperatures to maximise efficiency and minimise equipment stress, with the ability to operate at higher temperatures during peak demand within heat pump limits.# Backup boilers (gas/oil) will support peak loads and extreme conditions# The buildings have predictable, daytime based occupancy profiles and low annual running hours due to being schools# Heat pumps will operate predominantly during controlled and stable load conditionsThese factors result in:# Predictable and stable thermal loads# Reduced mechanical and thermal cycling# Lower probability of component stress or degradation# Improved reliability and long term warranty compliance					
			To Collection €		

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	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Tender Note # Commercial & Technical Expectations:Tenderers must base their submission on the following assumptions:# The systems are conservatively designed and operate comfortably within their capabilities# There is no reliance on electric backup# Operating conditions are stable due to predictable school occupancy profiles# A minimum 5 year warranty must be provided# Only the biennial service visit (once every two years) shall be priced into the tender unless the manufacturer requires otherwise# Tenderers are strongly encouraged to secure extended service intervals from their suppliers to improve lifecycle cost efficiency					
A	Air source heat pump Ref: ASHP-01; Location: External plant compound	1	nr			
B	Air source heat pump Ref: ASHP-02; Location: External plant compound	1	nr			
	Accessories associated with Primary Equipment					
	Isolation valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
C	65mm Stop valves	5	nr			
	Non-return valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
D	65mm Non-return valves	2	nr			
	Auto-air vent valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
E	65mm Auto-air vent valve	2	nr			
	Test point valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
F	65mm Test point valves	4	nr			
	Pressure Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
G	65mm Pressure Gauge	4	nr			
	Flexible connections; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
H	65mm Flexible connections	4	nr			
	Anti-frost valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Volume 2					
J	65mm Anti-frost valve	2	nr			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Distribution					
	Pre-insulated, self-compensating, flexible heating pipework and fittings; Miniumum heat loss of 0.216W/m; Insulation: closed cell PUR foam wrapped in corrugated HD PEXa; Operating temp: 95øC; tested to 6 bar; include for all accessories; all in strict accordance with the Mechanical Engineers Specification and Drawings M-5601					
A	65mm diameter pipework	1	item			
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3, Section 1					
B	65mm diameter pipework	1	item			
	Insulation					
	Foiled faced fibreglass insulation; to all new pipework services; class A1, CFC and HCFC free with ozone depletion factor of zero; Thermal conductivity not exceeding 0.04W/m2K at 100øC; all joints taped and sealed; all in strict accordance with the Mechanical Engineers Specification Part 1, Section 4.2					
	Insulation, 40mm thick					
C	to 65mm diameter pipework	1	item			
	Valve jackets provided with Velcro fixings shall be provided on all valves, flanges, pumps and heat exchangers within the plant rooms and externally. All valve jackets used on external pipework shall be weather proof; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
D	General Valve & Plant	1	item			
	Aluminium Cladding; 18mm gauge aluminium, fixed with self-tapping screws; all in strict accordance with the Mechanical Engineers Specification					
E	to 65mm diameter pipework	1	item			
F	General Valve & Plant	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
G	Testing and commissioning	1	item			
H	Testing,chemical dosing, sterilization and certification of all systems	1	item			

To Collection €

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Operating and maintenance manuals; all in accordance with Engineers Specification					
A	Operating and maintenance manuals	1	item			
B	Heat pump servicing; One service visit preferably every two (2) years, or in accordance with manufacturers requirements in order to maintain 5 year warranty.	1	item			
	Working drawings; all in accordance with Engineers Specification					
C	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
D	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
E	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
F	Identification plates, labels and the like	1	item			
	(50) SITE SERVICES - TRACE HEATING					
	System					
	Trace Heating installation, testing and commissioning; complete; Trace heating shall be installed on all the water systems where they travel externally between building blocks; Trace heating shall be provided complete with control panels and all required components to prevent system freezing. Capacity of trace heating shall maintain water temperature above 3øC when ambient temperature is -15øC. Trace heating temperature control shall prevent water temperature rising above 10øC. Trace heating system to incorporate air control thermostats and pipework safety cut out thermostats. All trace heating circuits shall be linked to BMS to provide status and fault indication on BMS; Supply electric trace heating complete with fixing tape, shrink sleeves, crimps, junction boxes and controls; all in strict accordance with the Mechanical Engineers Specification and Drawings					
	Primary Equipment					
	Trace heating control panel; all in strict accordance with the Electrical Engineers Specification					
G	Trace heating panel Location: Plant room	1	nr			

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Accessories associated with Primary Equipment					
	Self-regulating heating tape; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
A	Self-regulating heating tape	1	item			
	Air control thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
B	Air control thermostats	1	item			
	Safety cut out thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
C	Safety cut out thermostats	1	item			
	Insulation					
	Modified polyolefin electrical insulation; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
D	65mm diameter pipework	1	item			
E	Valves and Plant; generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
H	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
J	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
K	As built drawings	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Identification plates, labels and the like; all in accordance with Engineers Specification					
A	Identification plates, labels and the like	1	item			

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.4/68					
Page No. Lot 8.4/69					
Page No. Lot 8.4/70					
Page No. Lot 8.4/71					
Page No. Lot 8.4/72					
Page No. Lot 8.4/73					
Page No. Lot 8.4/74					
Page No. Lot 8.4/75					
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	2	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	2	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	1	nr			
G	Foul pipe; crossing excavations	1	nr			
H	ESB; crossing excavations	1	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
C	595 x 325mm; to 2nr ducts	2	m			
	PVC Red marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	2	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 300mm above pipework	2	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
F	Laid in trenches	4	m			
G	Extra over for easy sweep bends	2	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
H	Average depth not exceeding 1000mm	1	nr			
	Sundries					
J	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			
K	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			

To Collection €

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	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
A	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
B	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
C	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
D	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
COLLECTION					
Page No. Lot 8.4/77					
Page No. Lot 8.4/78					
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(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES					
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER TO HEAT PUMPS					
	System					
	Power to Heat pumps installation, testing and commissioning; complete; The electrical contractor shall provide all wiring and power supplies associated with the external heat pumps as detailed on the wiring schematic; all underground electrical services cables shall be distributed within ducts; separate underground service ducts shall be provided as part of the builders works element; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
D	Heat Pump Power Installation	1	item			
	Accessories associated with terminal equipment					
	Isolator Switch; supply and installation (including wiring); complete; c/w back boxes; all in accordance with the electrical specification					
E	Rotary Isolator; SPN 40amp; external	2	nr			
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
F	Submains Ref: 10; MSB to ASHP01; 4 x 150sq.mm XLPE/SWA/LSF + 95sq.mm CPC	1	item			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
A	Submains Ref: 10; MSB to ASHP02; 4 x 150sq.mm XLPE/SWA/LSF + 95sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
B	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
C	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
D	Operating and maintenance manuals; complete	1	nr			
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
E	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
F	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
G	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
H	Identification plates, labels and the like; complete	1	item			
				To Collection €		

(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)

(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE EARTHING & BONDING

System

Earthing and Bonding installation; testing and commissioning; The contractor shall undertake to effectively earth the whole of the electrical installation in accordance with the NSAI I.S. 10101: 2020+A1:2024 Regulations; Main equipotential earth bonding should be provided from each of the following items, as a minimum, to the main earthing bar: Incoming Water Main, Incoming Gas Main, Metal drainage pipes, Structural Steelwork, Main Heating Pipework, Main Ventilation Ductwork, Lightning Protection System, Comms Rooms, Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations: Metallic Wireways and Containment, Suspended Ceiling Grids, Wash Hand Basins, Showers, Sinks, WC's, Cleaners Sinks, Catering equipment, Metal worktops, Plantroom Pipework (e.g. across pumps, valves, vessels, etc.); all in strict accordance with the Electrical Engineers Specification and Drawings E-6000

A	Earthing and Bonding	1	item		

Fittings

Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification

B	Main Earth Terminal Bar	1	nr		

Earthing points c/w inspection box; earth electrodes in accordance with I.S 10101:2020; complete; all in strict accordance with the Electrical Engineers Specification

C	Earthing Points	2	nr		

Cables

Earth conductor cable; supply and installation complete; Cable size 95mm2 LSF earth; mechanically protected throughtout; all in accordance with the Electrical Engineers Specification

D	Earth terminal bar to earth pits	1	item		
E	Switchboard to earth pits	1	item		

(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)

General Earthing and Bonding

General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification

A	Generally	1	item		

General

Testing and commissioning; all in accordance with Engineers Specification

B	Testing and commissioning	1	item		

Operating and maintenance manuals; all in accordance with Engineers Specification

C	Operating and maintenance manuals	1	item		

Working drawings; all in accordance with Engineers Specification

D	Working drawings	1	item		

Co-ordination drawings; all in accordance with Engineers Specification

E	Co-ordination drawings	1	item		

As built drawings; all in accordance with Engineers Specification

F	As built drawings	1	item		

Identification plates, labels and the like; all in accordance with Engineers Specification

G	Identification plates, labels and the like	1	item		

To Collection €

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
COLLECTION					
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(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS Carried to Summary					

				€	c
SUMMARY	**Page No.**				
(10) DEMOLITIONS AND ALTERATIONS	Lot 8.4/2				
(31) EXTERNAL WALL COMPLETIONS	Lot 8.4/4				
(35) & (45) CEILING FINISHES	Lot 8.4/6				
(5-) MECHANICAL INSTALLATION	Lot 8.4/32				
(6-) ELECTRICAL INSTALLATION	Lot 8.4/54				
(30) SITE ENCLOSURES - PLANT COMPOUND	Lot 8.4/60				
(50) SITE SERVICES - GAS	Lot 8.4/64				
(50) SITE SERVICES - DISTRICT HEATING	Lot 8.4/67				
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS	Lot 8.4/76				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP	Lot 8.4/80				
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS	Lot 8.4/85				
Total amount carried to general summary					
Lot 8.4/1 - Lot 8.4/85.					

8.6 - Ughtyneill NS

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	(10) DEMOLITIONS AND ALTERATIONS					
	DEMOLITION & ALTERATIONS					
	GENERAL					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYER'S REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Demolitions					
	Removing					
	Fittings and Fixtures					
B	Existing External single door and frame; approx 1000mm wide x 3160mm high; include all fittings, architrives, liners etc; diposal of all material off site	1	nr			
	Removing Finishes					
C	Existing ceiling finishes to certain locations within existing building; disposal of all materials off site; prepare ceilings to receive new finishes	33	m2			

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(10) DEMOLITIONS AND ALTERATIONS (Cont)					
COLLECTION					
Page No. Lot 8.6/1					
(10) DEMOLITIONS AND ALTERATIONS **Carried to Summary**					

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	(31) EXTERNAL WALL COMPLETIONS					
	METALWORK					
	Non-Structural					
	ALUMINUM DOORS INCLUDING LOUVRE DOORS; The successful contractor will be responsible for the design, supply, fabrication, and installation of the doors all in accordance with the best building practices and systems supplier#s recommendations; The contractor will be responsible for providing all proposals, drawings, samples etc required to satisfy the requirements of the tender and also to demonstrate that the contractor is competent and able to execute the works in a proper and timely manner; The contractor will be responsible but not limited to providing the design team the following documentation in advance of any works been commenced; Providing all test data covering all the proposed systems; After the contractor has been awarded the project they must provide the design team the following prior to any work commencing; A full set of detailed shop drawings showing all the relevant interfaces, systems junctions, flashing details, glass types, and indicting all the surfaces being painted; include for inbuilt screen; as per Architect's specification					
	Composite Items; Doorsets (Louvred Doors)					
A	External Single Door; overall opening size (including frame) 1000mm wide x 3160mm high; comprising 1nr louvred door size 1000mm wide x 3160mm high; complete	1	nr			
				To Collection €		

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(31) EXTERNAL WALL COMPLETIONS (Cont)					
COLLECTION					
Page No. Lot 8.6/3					
(31) EXTERNAL WALL COMPLETIONS **Carried to Summary**					

					€	c
	(35) & (45) CEILING FINISHES					
	FLOOR, WALL & CEILING FINISHES					
	Suspended Ceiling					
	Proprietary suspended ceiling system; Manufacturer: Submit proposals for Architects approval; Product reference: CasoLine MF suspended ceiling system- or equivalent to Architect#s approval; Suspension system; Hanger type: Gypframe MF8 strap hangers; Top fixings: Gypframe MF12 soffit cleats fixed to concrete soffit or metal deck; Primary grid centres: 1200 mm. Hanger centres: 900 mm; Secondary grid centres: 400 mm; Linings: 1 x 12.5 mm Gyproc WallBoard, Gyproc moistureproof green board where noted on RCP's and in a wet area; Insulation: none; Access Units: Gyproc Profilex access panels; Finishing: Taped seamless finish; Primer/ Sealer; Type: 1 coat of Gyproc Drywall Primer (2 coats where noted as moistureproof green board; Accessories: none; all as per Architects Specification					
	Ceilings; fixed below floor structure					
A	Depth of suspension 500mm - 1000mm	33	m2			
	PAINTING AND DECORATING					
	Painting					
	Emulsion paint; To internal plastered surfaces and fairfaced blockwork; Manufacturer: Submit proposals for Architects approval; Product reference: Dulux trade Diamond Matt (water based tough Scrubbable Matt emulsion); Surfaces: Internal plastered surfaces; Preparation: Tape and fill joints; Initial coats: 40% thinned primer.Thinning Sealing new or bare surfaces: Add up to 1 part clean water to 10 parts paint; Number of coats: 2; Undercoats: As recommended by manufacturer; Number of coats: As recommended by manufacturer; Finishing coats: Washable matt vinyl; Number of coats: 2; all as per Architects Specification					
	Ceilings					
B	Exceeding 300mm	33	m2			

				€	c
(35) & (45) CEILING FINISHES (Cont)					
COLLECTION					
Page No. Lot 8.6/5					
(35) & (45) CEILING FINISHES **Carried to Summary**					

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	(5-) MECHANICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Modifications and Relocation of existing gas boiler and associated flow and return pipework to suit new plantroom layout (boiler retained); including isolation, draining down, alteration and rerouting of pipework to new positions, provision of fittings, valves, and supports as required, reconnection into revised system arrangement, testing, making good, and full reinstatement of insulation and finishes; all in accordance with the Mechanical Specification and Drawing M-5601	1	item			
	Modifications to existing heating circuit to accommodate new works (measured elsewhere); including isolation, draining down, cutting into existing pipework, formation of connections, provision of fittings, valves, and supports as required, testing, making good, and full reinstatement of insulation and finishes; all in accordance with the Mechanical Specification and Drawing M-5601					
	Notes					
C	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
D	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
E	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	ASBESTOS REMOVAL					
	DEMOLITION & ALTERATIONS					
	General					
A	The following items are not measured in strict accordance with ARM.		note			
B	The Contractor is refered to the Pre Refurbishment & Demolition Asbestos Survey		note			
C	The Contractor must ensure that any risk of exposure to asbestos is completely eliminated. Contractor to consult with Employer's Representative before any work commences on site.	1	item			
D	The Contractor is advised that there is a notification form to be used for any work involving asbestos. This form must be submitted 28 days prior to the start of such work.	1	item			
E	The Main Contractor / PSCS must appoint a specialist asbestos removal contractor to carry out the asbestos removal & disposal works	1	item			
F	Prior to commencing any demolition or construction works on site all asbestos must be removed from site; in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010	1	item			
G	The Main Contractor / PSCS must appoint a competent independent analyst / accredited laboratory for the purpose of undertaking air sampling, project monitoring and issuing site clearance for reoccupation certification; in conformance with ISO 17025 General Requirements for the Competence of Testing and Calibration Laboratories	1	item			
H	Prior to commencing the asbestos removal works the specialist contractor shall submit (to the PSDP & Employer's Representitive) their Plan of Work (risk assessment / method statement), Design Risk Assessment, and temporary works certificates for the Asbestos Removal works (at least 21 days in advance of commencing the asbestos removal works)	1	item			
J	Prior to commencing the asbestos removal works the specialist contractor shall submit their Plan of Work (risk assessment / method statement), and notify, to the HSA (at least 14 days in advance of commencing the asbestos removal works). The PSCS must also ensure that copies of the notifications are forwarded to the PSDP, Client & Project Manager	1	item			
K	No works may take place on site until the Plan of Work has been drawn up and approved by the Main Contractor / PSCS	1	item			
L	No deviations shall be permitted from the plan of work submitted to the HSA	1	item			
M	Should the Plan of Work require amending / updating (for whatever reason) it must be issued to the PSDP & Project Manager in the first instance, and then the HSA, prior to proceeding with any proposed changes	1	item			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
A	No asbestos removal works may take place in areas occupied by normal construction / project personnel and / or third parties	1	item			
B	An asbestos site clearance for reoccupation certificate(s) must be supplied (by the competent independent analyst / accredited laboratory) to the PSDP & Project Manager prior to commencing any demolition or construction works on site (other than the asbestos removal works); the certificate(s) must include (1) Visual inspection, (2) Air monitoring and (3) The decontamination unit	1	item			
C	After completing Asbestos Removal works the PSCS must ensure that asbestos site clearance for reoccupation certificates are issued to the Project Manager, PSDP, and Client PRIOR to allowing those areas to be opened up to persons (other than those persons directly involved in the asbestos removal works)	1	item			
D	NO Asbestos Containing Waste Material may be removed from the site unless a Waste Transfer Form (removal of Hazardous Waste Material from Site) has been completed and issued to the PSCS / Main Contractor, the PSDP & Project Manager	1	item			
E	The PSCS / Main Contractor must forward copies of final disposal certificates (i.e. completed Waste Transfer Form (final disposal of Hazardous Waste Material)) to the PSDP & Project Manager	1	item			
F	The PSCS / Main Contractor must forward, the following information (as applicable) to the PSDP, for inclusion in the Safety File; Bulk sample results, Amended Asbestos Register, Preliminary Safety & Health Plan and Specification, Specialist asbestos removal contractor Plan of Work, Notification to the Health and Safety Authority, Air monitoring results prior to removal works commencing, Air monitoring results during removal works, site clearance for reoccupation certificates, Completed Waste Transfer Form for the final disposal of all asbestos / hazardous waste.	1	item			
G	All asbestos works must be carried out in accordance with; The HSA 2010 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001, The Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010, The HSA Guidelines on Working with Materials Containing Asbestos Cement (and any subsequent amendments updates to HSA Guidelines and / or Codes of Practice)	1	item			
H	Contractor to include here (Unless included in rates elsewhere) for protection of all fixtures, fittings and finishes to all areas in which asbestos removal occurs	1	item			
	Alterations					
J	The Contractor must note that the safe and proper removal and disposal of all asbestos material is the Contractor's full responsibility and therefore the contractor's price/rates must include for all work in connection with same; no claims on the grounds of want of knowledge will be entertained whatsoever.	1	item			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Removing Finishes; Asbestos Material					
A	Submit Plan of Work and 14 day prior notification to the Health & Safety Authority	1	item			
B	Setup Decontamination Unit & Form Enclosures	1	item			
C	Specialist removal and disposal of asbestos-containing valves in accordance with all relevant safety and environmental regulations.	1	item			
D	Environmental clean to achieve clearance certification	1	item			
E	Asbestos Removal & Disposal Certificates	1	item			
F	INAB Accredited Asbestos Clearance Certification					
G	Reassurance Air Monitoring and Re-occupation Clearance Certification by an Asbestos Consultant	1	item			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS					
	(51) HEATING CENTRE					
	System					
	Heating center installation, testing and commissioning; consisting of 1nr ASHP (Primary heating source) and 1nr exisitng LPG gas fired condensing boilers (secondary heating source) serving radiators throughout the building; the installation shall include a pressurisation unit, expansion vessel, pipework, shunt pumps and all associated valves; the existing header and on floor distribution pipework to be retained and reused; existing flow rates to be recorded prior to works and re-established at the end of the works; The heating system shall be flushed and provided with appropriate chemical treatment; Commissioning results including a flue gas analysis shall be provided for the boilers prior to handover, along with a statement by the manufacturer/supplier confirming their correct and efficient operation; all in strict accordance with the Mechanical Engineers Specification Part 1; Part 2; Part 3; Part 4 and Drawings M-5601					
	Accessories associated with Primary Equipment					
	Stop valves for isolation of LPHW pipework up to 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3					
H	22mm Stop valves	2	nr			
J	45mm Stop valves	5	nr			

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	(5-) MECHANICAL INSTALLATION (Cont)					
A	55mm Stop valves	2	nr			
B	65mm Stop valves	4	nr			
	Stop valves for isolation of LPHW pipework over 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3					
C	100mm Stop valves	11	nr			
	Non-return valves; include for all accessories and fittings; all in strict accordance with Engineers Specification Part 3					
D	22mm Non-return valves	3	nr			
E	45mm Non-return valves	1	nr			
F	55mm Non-return valves	1	nr			
G	65mm Non-return valves	1	nr			
H	100mm Non-return valves	2	nr			
	Lock Shield Valve; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
J	22mm Lock shield valve	2	nr			
	Strainer valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
K	45mm Strainer Valves	1	nr			
L	65mm Strainer Valves	1	nr			
M	100mm Strainer Valves	1	nr			
	2 Port valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
N	100mm 2 Port Valves	4	nr			
	3 Port valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
P	100mm 3 Port Valves	1	nr			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Differential Pressure Valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
A	100mm Differential Pressure Valves	1	nr			
	Auto Air Vents; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
B	22mm AAV Valve	1	nr			
	Temperature Sensors; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
C	Temperature sensor	10	nr			
	Temperature Guage; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
D	45mm Temperature guage	1	nr			
E	50mm Temperature guage	1	nr			
F	55mm Temperature guage	1	nr			
G	65mm Temperature guage	2	nr			
	Pressure gauge; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
H	55mm Pressure gauge	1	nr			
J	65mm Pressure gauge	2	nr			
K	100mm Pressure gauge	2	nr			
	Commissioning Sets; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
L	45mm Commissioning Set	1	nr			
M	100mm Commissioning Set	1	nr			
	Flexible connections; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
N	65mm Flexible connections	3	nr			
P	100mm Flexible connections	3	nr			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Drain Cock Valve; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
A	50mm Drain Cock Valve	1	nr			
	Sensor Flow; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
B	45mm Sensor Flow	1	nr			
	Flushing bypass; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
C	45mm Flushing bypass	1	nr			
	Air Separator; supply and installation; complete; Description: Deaerator, Application: LPHW Heating System; Connection Size: DN 100; Construction: Mild steel, welded; Mounting: Inline; Finish: Powder coated; Max. flow velocity: 1.5 m/s; Pressure drop at Max. Flow: 4.2 kPa; Auto Air Vent: Integral; Stainer Screen: Stainless Steel; Magnets: Neodymium Magnets; Typical Height: 1500 mm; Typical Length: 650 mm; Compliance: Declaration of Performance / CE Certification / Confirmation of CPR Exemption PED 2014/68/EU; all in strict accordance with the Mechanical Engineers Equipment Schedule					
D	Air Separator; Ref: ASP-01	1	nr			
	Dirt Separator; supply and installation; complete; The Contractor shall supply and install air/dirt separators on the primary flow & return heating pipework from the ASHP; Description: Deaerator, Application: LPHW Heating System; Connection Size: DN 100; Construction: Mild steel, welded; Mounting: Inline; Finish: Powder coated; Max. flow velocity: 1.5 m/s; Pressure drop at Max. Flow: 4.2 kPa; Auto Air Vent: Integral; Stainer Screen: Stainless Steel; Magnets: Neodymium Magnets; Typical Height: 1500 mm; Typical Length: 650 mm; Compliance: Declaration of Performance / CE Certification / Confirmation of CPR Exemption PED 2014/68/EU; all in strict accordance with the Mechanical Engineers Equipment Schedule					
E	Dirt Separator; Ref: MSD-01	1	nr			
	Circulation Pump; supply and installation; complete; Description: Single head, canned-rotor type c/w integral variable speed control & BMS connectivity; Power: 230C/1ph/50Hz; Pump Housing Material: Stainless Steel; Impeller Material: PES 30% GF; Maximum Operating Pressure: 10 bar; Enclosure Class: X4D; Insulation Class: F; Energy (EEI): 0.18; Compliance: Declaration of Performance / CE Certification; See Part 3: Standard Clauses; for appropriate standards; ERP Directive (2009/125/EC); EU Regulation (813/2013); Energy Labelling Framework; Regulation (EU) (2017/1369); EU Regulation (811/2013); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.5					
F	Pump LPHW, Ref: PMP03; Flow rate: 0.5 kg/s; Head: 60kPa	1	nr			

To Collection €

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Circulation Pump; supply and installation; complete; Description: Twin head, canned-rotor type c/w integral variable speed control & BMS connectivity; Power: 230C/1ph/50Hz; Pump Housing Material: Cast Iron; Impeller Material: Cast Iron; Maximum Operating Pressure: 10 bar; Enclosure Class: X4D; Insulation Class: F; Energy (EEI): 0.17; Compliance: Declaration of Performance / CE Certification; See Part 3: Standard Clauses; for appropriate standards; ERP Directive (2009/125/EC); EU Regulation (813/2013); Energy Labelling Framework; Regulation (EU) (2017/1369); EU Regulation (811/2013); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.5					
A	Pump LPHW, Ref: PMP01; Flow rate: 1.5 kg/s; Head: 55kPa	1	nr			
B	Pump LPHW, Ref: PMP02; Flow rate: 1.5 kg/s; Head: 120kPa	1	nr			
	Pressurisation Unit; supply and installation; complete; Description: Floor Standing LPHW Pressurisation Unit, Pumps: Twin.; Breaktank Connection: #AB# air gap to water supply; Max Working Pressure: 10 Bar; Connectivity: Volt Free Contacts required for High/Low level fault output to BMS; Digital Display: Required c/w password protection; Independent High / Low Pressure Alarm: Hard-wired; Auto Fill Capacity: Required; Standards/ Conformity: ISO 9001, BSEN 60204 Part 1, WRAS approved, IMQ & VDE Standards, PED, EMC Directives; Expansion Vessel: See drawings; Max. Working Pressure of Expansion Vessels: 10 bar; Pressurisation unit to supply common fault signal to BMS, Pressurisation unit c/ w high & low pressure trip, Quick fill loop to be included as part of installation; all in strict accordance with the Mechanical Engineers Equipment Schedule 1.8					
C	Pressurisation Unit; Ref: PRU001; Location: Plant room	1	nr			
	Buffer Vessel; supply and installation complete; Description: Direct Heating Vertical Buffer Vessel; Storage Capacity: 300 litres; Material: Mild Steel Construction with exterior paint; Max. Temperature: 99øC; Max. Working Pressure: 3 bar; Size: 1755mm (H) x 595mm (dia); Max.; Connections: See schematic; Insulation: 550mm soft polyester fibre insulation with high Thermal insulation to ErP class B or C, Fire Class: B-s2do to EN 13501; Warranty: 5 years; Accessories: Access hatch, Temperature Gauge, Pressure Gauge, Temp/Pressure, Safety Valve & tundish, Immersion Pockets 200mm deep min; Compliance: Declaration of Performance / CE Certification PED 2014/68/EU; all in strict accordance with the Mechanical Specification Part 4, Section 1.4					
D	Buffer vessel; Ref: BUF001	1	nr			

To Collection €

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Chemical dosing pot; supply and installation; complete; Capacity: 11 litres; Construction: Mild steel, welded; Mounting: Wall mounted c/w wall mounting brackets; Finish: powder coated; Minimum Output: 1 kW; Connection Details: Tundish, 1# fill valved connection, 1# drain valved connection, 1# flow valved connection, 12 return valved connection, Air vent Connection Sizes 1#; Typical Height: 880 mm; Typical Diameter: 200 mm; Weight: 16.5; c/w foot valve; chemical drum; Cleansing; Corrosion inhibitor and wall mounting brackets; include for all accessories and fittings; all in strict accordance with the Mechanical Equipment Schedule 1.7					
A	Chemical dosing pot	1	nr			
	Expansion Vessel; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
B	Expansion Vessel	1	nr			
	Hydraulic Low Loss Header; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
C	Hydraulic Low Loss Header	1	nr			
	Boiler Flues; Flues shall be installed from each boiler as a pre-fabricated horizontal discharge balanced flue system; Description: Horizontal Balanced Flue Kit; Construction Inner: 304 grade s/steel (EN 1.4301); Construction Outer: Powder Coated Steel; Insulation Thickness: 50mm; Fire Rating: 2 hours (BS 476: Part 20); Minimum Clearance to Combustible Material: 50mm; Terminal Type: Suitable for Horizontal discharge; Support Brackets Int. Use: Powder-coated, 304 grade stainless steel; Roof terminal kit: Required; all in strict accordance with the Mechanical Engineers Specification Part 3					
D	Boiler flue; Size 100/160mm diameter	1	nr			
E	Boiler flue; Size 160mm diameter	1	nr			
F	Boiler header flue; Size 160mm diameter	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Description Heat meter; Media LPHW; Visible Display Digital; Pulse Output Requirements; Switch type - reed; Contacts - VFC; Pulse value # 1 kw/h per pulse; Load current - 500mA; Max switch voltage - 180 Vdc; Contact rating # 10W; Flying lead - 2m; Requirements - Class 2 Ultrasonic flow sensor - Calculator with integral hardware and software for measuring flow rate, temperature and energy consumption - Temperature sensors - Pulsed Input interface card for water sub-metering- Remote reading via M-Bus or similar interface - Power save mode - 24 month memory - Extensive diagnostic displays; Connection Type As per Part 3: Standard Clauses; Inline Strainer Required; Installation Positions Horizontal & vertical; Max Pressure 16 Bar; Media Temperature 1 oC # 90/130oC; Operating Temperature 1 oC # 90/130oC; Compliance Declaration of Performance/CE Certification, IS EN 14154, MID (Measuring Instrument Directive) 2004/22/, EC, CEN EN 1434 (2007) and OIML R5 (2002); all in strict accordance with the Mechanical drawing and Specifications documents Volume 3 - Equipment Schedules 2.4					
A	Heat Meter	1	nr			
	Distribution					
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3					
B	22mm diameter pipework	1	item			
C	45mm diameter pipework	1	item			
D	55mm diameter pipework	1	item			
E	65mm diameter pipework	1	item			
F	100mm diameter pipework	1	item			
	Heating Distribution pipework up to and including 80mm shall be Copper to IS EN 1057; include for all fixings All fittings employed on copper pipework systems shall be of the nondezincifiable quality. Soldered joints shall be in accordance with HVCA TR7 #Guidance on Soft Soldering for Pipe Jointing Copper# using lead free solder. On sizes 54 mm and below joints shall be made with capillary fittings to IS EN 1254 using lead free solder. On condense, boiler feed and boiler blow down systems an approved silver brazing alloy to IS EN 1044 shall be used. At dismantling points, unions, or flanged joints as appropriate shall be used. For connections to all appliances and on drainage pipework, joints shall be made with compression fittings to EN 1254 Part 2 or 2051 Part 1 as appropriate; all in strict accordance with the Mechanical Engineers Specification Part 4					
G	22mm diameter pipework	1	item			

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	(5-) MECHANICAL INSTALLATION (Cont)					
A	45mm diameter pipework	1	item			
B	55mm diameter pipework	1	item			
C	65mm diameter pipework	1	item			
D	100mm diameter pipework	1	item			
	Insulation					
	Phenolic preformed section insulation; to LTHW services pipes; Thermal conductivity shall not exceed 0.042 Wm2K at 100oC; All insulation shall be fitted in accordance with the manufacturer#s instructions. All heating and plumbing pipework, valves and ancillary equipment within the plant room and external plant compound shall be insulated and aluminum hammer clad to provide mechanical protection; All insulation shall be Class A1, CFC and HCFC free with ozone depletion factor of zero; include for all accessories; all in accordance with the Mechanical Engineers Specification Part 4					
	Insulation, 15mm thick					
E	to 22mm diameter pipework	1	item			
	Insulation, 40mm thick					
F	to 45mm diameter pipework	1	item			
G	to 55mm diameter pipework	1	item			
H	to 65mm diameter pipework	1	item			
J	to 100mm diameter pipework	1	item			
	Insulated cover boxes; aluminium split casing c/w spring clip fasteners, 35mm thick insulation lining; sized to suit valve; vapour sealed; all in accordance with Engineers Specification Part 4					
K	General valves	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
L	Testing and commissioning	1	item			
M	Testing,chemical dosing, sterilization and certification of all systems	1	item			
N	Completion of heat meter commissioning reports	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Operating and maintenance manuals; all in accordance with Engineers Specification					
A	Operating and maintenance manuals	1	item			
B	Filter maintenance; allow for 3 visits to site after completion for filter cleaning	1	item			
	Working drawings; all in accordance with Engineers Specification					
C	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
D	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
E	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
F	Identification plates, labels and the like	1	item			
	(52) DRAINAGE AND REFUSE DISPOSAL					
	System					
	Soils and Waste Drainage Installation, testing and commissioning; complete; The complete installation of all above ground foul water drainage and refuse disposals; The Mechanical Contractor shall also be responsible for removal from storage and carriage to the position, erection of each item and all connections to and from the sanitaryware as detailed on the drawings and within this specification; all in strict accordance with the Mechanical Engineers Specification					
	Distribution System					
	Condensate pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work; all in strict accordance with the Mechanical Specification					
G	28mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
H	32mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
A	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
B	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
C	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
D	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
E	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
F	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(53) WATER SERVICES - HOT AND COLD WATER					
	System					
	Cold Water Distribution installation, testing and commissioning; The water services installation shall consist of mains water pipework extending to the cold-water storage tank and to the mains-water service outlets within the building. The pipework extends from the tank to a variable speed booster within the plant room. The pipework is distributed to serve cold water outlets, hot water cylinder, hot water outlets and appliances. All appliances and water outlets will be locally isolated to facilitate future maintenance; all in strict accordance with the Mechanical Engineers Specification					
	Hot Water Distribution installation, testing and commissioning; A new domestic hot water recirculation system shall be installed with a domestic hot water return pump fitted on the inlet to DHW Pre-Heat Cylinder; The main domestic hot water flow and return pipework shall generally be distributed within corridor ceiling voids with branch pipework extended to each space requiring a hot water supply and shall drop locally at each item of sanitaryware and rise back up to the ceiling void before dropping to the next sanitaryware fitting; Domestic hot water must be circulated throughout each schools hot water system at a minimum temperature of 55oC in order to protect against legionella; all in strict accordance with the Mechanical Engineers Specification					
	Equipment					
	Gas Fired Instantaneous Water Heater; Fuel: LPG; Size: 615mm x 464mm x 240mm; Seasonal Efficency: 104%; Min peak flow @ 55 degrees: 15 litres/min; Power consumption: 75.9w; Power supply: 220-240/1ph/50Hz; complete; all in strict accordance with the Mechanical drawing and Specifications documents Volume 3 - Equipment Schedules					
A	Gas Fired Water Heater; Ref: WH01; Location: Boiler room	1	nr			
	Accessories associated with Primary Equipment					
	Isolation valves; Isolating valves shall be provided as indicated on the drawings; all in accordance with the Mechanical Engineers Specification Part 3					
B	50mm Isolation Valves	5	nr			
	Non-return valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
C	50mm Non-Return Valves	1	nr			
	Commissioning Sets; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
D	50mm Commissioning Set	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Temperature Sensor; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
A	50mm Temperature Sensor	2	nr			
	Temperature Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
B	50mm Temperature Gauge	3	nr			
	HWR Return Pump; supply and installation; complete; Type Single-head, canned-rotor type c/w constant speed & 3 no. variable settings; Minimum Energy Class A; Design Flow-rate 0.2 litres / sec; Design Pressure 125 kPa; Pump Housing Material Stainless steel; Impeller Material PES 30%GF; Maximum Operating Pressure 10 bar; Maximum Operating; Temperature: 110øC; Maximum Ambient; Temperature: 40øC; Power Input 333 W; Maximum Current Consumption 1.55 A; Power Supply 50/60Hz; Rated Voltage 230 V; Enclosure Class X4D; Insulation Class F; Minimum Efficiency Index EEI: 0.18 Compliance: Declaration of Performance / CE Certification EN 12756 EN 1092-2); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.12					
C	Pump HWR, Ref: PMP04; Flow rate: 0.4 kg/s; Head: 270kPa	1	nr			
	Distribution					
	Copper Pipes and Fitting; supply and installation complete; Application: Domestic hot and cold water pipelines; Material: Copper; Finish: uncoated; include for all fixing brackets, hangers and supports; include for all elbows, expansion bellows, unions and tees necessary to complete works;Hot and cold-water pipework shall be installed in copper tube to IS EN 1057. The Contractor shall use only CE marked tube and potable range fittings. Solders containing lead must not be used on the Site. Main branch stop valves shall be installed generally as shown on the drawings and in safely accessible locations. Ballofix valves shall be fitted to pipework at all sanitary appliances. Hot water taps shall be positioned on the left-hand side of all sanitary ware; all in accordance with the Mechanical Engineers Specification					
D	50mm diameter pipework	1	item			
	Non-matallic pipework and fittings; in accordance with the Irish Standard IS EN 806:2005: Specification for installations inside buildings conveying water for human consumption; include for all fixing brackets, hangers and supports; include for all elbows, unions and tees necessary to complete works; all in accordance with the Mechanical Engineers Specification					
E	50mm diameter pipework	1	item			

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Insulation					
	Thermal insulation; to all HWS/HWR services pipes; thermal conductivity not exceeding 0.035 W/mK; All pipework and valves within each Heating Plant room, in casings, ceiling voids or attic spaces shall be fully insulated with rigid mineral wool with foil covering as detailed in Part 3: Standard Specification and shall be fitted in accordance with the manufacturer#s instructions; All insulation shall be Class A1, CFC and HCFC free with ozone depletion factor of zero; include for all accessories; all in accordance with the Mechanical Engineers Specification					
	Insulation, 40mm thick					
A	to 50mm diameter pipework	1	item			
	Insulated cover boxes; aluminium split casing c/w spring clip fasteners, 35mm thick insulation lining; sized to suit valve; vapour sealed; all in accordance with Engineers Specification					
B	General valves	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
D	Testing,chemical dosing, sterilization and certification of all systems	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
E	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
F	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
G	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
H	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
J	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(54) GAS DISTRIBUTION - LPG GAS SERVICES					
	System					
	LPG Gas distribution; installation testing and commissioning; The school building will be fed from a new incoming LPG gas supply; The contractor shall allow for liaising with the gas supplier regarding coordination of works and certification of the site gas pipework and tank installation; LPG installation shall be installed in compliance with IS3213; all in strict accordance with the Mechanical Specification Part 1, Part 2, Part 3 and Part 4					
	Accessories associated with Primary Equipment					
	Isolation Valves; isolation of gas services pipework; include for all accessories; all in strict accordance with the Mechanical Specification Part 3					
A	15mm Stop valves	2	nr			
B	40mm Stop valves	4	nr			
	Gas Meter; Low pressure drop turbine gas meter; Gas meter to have volt free contacts for connection to the BMS; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
C	Gas Meter	1	nr			
	Distribution System					
	Galvanised Medium Grade Mild steel pipework and fittings; include for all fixings and supports, elbows,expansion bellows; unions and tees necessary to complete works; Painted with two coats of yellow ochre paint; pipework run in ceiling voids; all in strict accordance with the Mechanical Specification Part 3					
D	40mm diameter pipework	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with Engineers Specification					
A	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
B	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
C	Identification plates, labels and the like	1	item			
	(54) GAS DETECTION SYSTEM					
	System					
	Gas detection system installation testing and commissioning; A gas detection system will be installed in the heating center comprising of gas detectors, heat detectors, slam shut valve, gas detection panel and emergency lock-stop located adjacent to the boiler room door; The gas detection panel shall be provided with volt free contacts and an I/O interface unit for connection to the schools fire alarm system; all in strict accordance with the Mechanical Specification Part 1, Part 2, Part 3 and Part 4					
	Primary Equipment					
	Gas detection control panel; c/w emergency knock-off button, reset button, mute button, LED indication for power on, gas-on and emergency stop; free relay output for the BMS; IP44; CE rated, IEC61779-1; wall mounted; include for all accessories and fittings; all in accordance with the Mechanical Specification - Equipment schedules					
D	Gas detection control panel; Location: Boiler room	1	nr			
	Accessories associated with Primary Equipment					
	Gas Slam Shut Valve; supply and installation; complete; Auto reset on loss of power and fire alarm reset; compliance to EN161 and DIN Class A; maximum consumption of 2W during normal usage; all in strict accordance with Engineers Specification - Equipment schedules					
E	40mm Gas solenoid valve	1	nr			
	Emergency Push Button; supply and installation; complete; all in strict accordance with Engineers Specification					
F	Emergency Push Button	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Gas Detectors; supply and installation; complete; IP44 protection; Mounting: mounted over each burner, linked to the gas control panel; c/w gas conical collector hood; all in strict accordance with Engineers Specification					
A	Gas detector	1	nr			
	Heat Detectors; supply and installation; complete; all in strict accordance with Engineers Specification					
B	Heat Detectors	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(58) FIRE PROTECTION INSTALLATION					
	System					
	Fire Fighting installation, testing and commissioning; complete; Hand held fire extinguishers and fire blankets shall be provided throughout the building as detailed on the drawings; The installation will comply with BS 5306-2000-Part 8; The Contractor shall be responsible for carrying out the commissioning of the portable fire extinguishers before they are installed; all in strict accordance with the Mechanical Specification					
	Terminal equipment and Fittings					
	Fire Extinguishers supply and installation; complete with 5 years guarantee, CE approved and marked; all in accordance with the Mechanical Specification					
A	5KG CO2 Gas Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
B	5kg ABC Dry Powder Fire Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(58) BUILDING ENERGY MANAGEMENT SYSTEM					
	System					
	BEMS System Installation; testing and commissioning; complete; The BEMS systems shall be an open protocol computer based systems that monitors and initiates stop and start sequences for all the mechanical plant and equipment. The systems shall permit the end user to login to the system accessing plant time scheduling and operational status, together with temperature values and data logging. All alarms shall be available for review on each School#s front end and all temperatures shall be logged and extracted graphically for review. All logging data shall be stored in a SQL database for external use. The electrical meters supplied by the electrical contractor under the LV switchgear shall be connected to the BEMS electrical meter system supplied under the electrical contract and all information shall be integrated within the same software package; all in accordance with the Mechanical Engineers Specification section 10(58) and Mechanical Engineer Drawings ME5801					
A	Generally	1	item			
	Primary Equipment					
	Control Panel; supply and installation; complete; A new wall-mounted Mechanical Control Panel complete with a BEMS outstation and GSM module shall be provided in the new Heating Plant room of each main school and in its associated Multi-Purpose Hall Heating Plant room; Each control panel shall be provided with a touchscreen interface for access to setpoints, sensor readings and alarms; The MCC control panels shall be complete with Hand/Off/Auto selector switching for all items of plant with full functionality and indicator lamps, red for fault, green for healthy. Each BEMS control system shall relay all information back to the central monitoring system / front end and the electrical metering system; all in strict accordance with the Mechanical Engineers Equipment Schedule no. 6.1, Mechanical specification section no. 10.3 and Mechanical drawings ME5801					
B	Control Panel	1	nr			
	Front End PC c/w Software Licence; supply and installation; complete; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification and drawing ME5801					
C	Front End PC c/w Software Licence	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
E	Operating and maintenance manuals	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Working drawings; all in accordance with Engineers Specification					
A	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
B	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
C	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
D	Identification plates, labels and the like	1	item			
	MECHANICAL INSTALLATIONS					
	Sundries & Builders Work					
	General Attendances					
E	Provide all general attendances in accordance with Arm 4 .	1	item			
F	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
G	Provide use of the Main Contractors scaffolding.	1	item			
H	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
J	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
K	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
L	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Mechanical services works, including testing and commissioning , and pay all ongoing operation charges.	1	item			
M	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
N	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
P	Provide temporary telephone services to the Mechanical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Include for unloading, hoisting/cranage and placing into position all items of heavy plant and site offices supplied by the sub-contractors.	1	item			
B	Allow for maintaining all ducts, chases, trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
C	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
D	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
E	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
F	Provide all special attendances in accordance with Arm 4 Clause 3.1	1	item			
G	Provide temporary roads and hardstandings in connection with heavy items of plant and the like.	1	item			
H	Provide accommodation for the sub-contractor's staff for eating, site lavatories, site washing facilities, and cloaks.	1	item			
J	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
K	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
L	Provide temporary distribution systems for lighting, power, water for the execution of the electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
M	Provide the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
N	Protection of the works the Main Contractor is responsible for providing adequate protection at all times for the Mechanical services installation.	1	item			
P	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day.	1	item			
Q	Provide external access to high level on building facade to permit the installation of any external equipment/fittings and for the removal of existing services as required.	1	item			
R	Provide Mobile Elevated Working Platforms (MEWP) or scaffolding for Mechanical sub-contractors working at high level.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Provide for weathering & sleeving around all penetrations through the external structure of the building and to allow for sealing to fabric to maintain air tightness.	1	item			
B	Allow for maintaining all ducts, chases, trenches, trunking etc, clean and free of all water, debris and rodents at all times.	1	item			
C	Allow for making good and fire sealing of all builders work opes with proprietary sealant to architects details, where services penetrate fire zones.	1	item			
D	Allow for coordination with local authorities and utility providers in respect of application for connections, providing excavation of roads and full coordination with various utility companies.	1	item			
E	Coordinate with Mechanical Contractor to facilitate fitting of all sanitary ware.	1	item			
F	Allow for patrices behind ceiling tiles and ceilings for the support of light fittings, grilles, smoke detectors, sensors etc.	1	item			
G	Allow for weathering details on all services passing through external envelope.	1	item			
H	Allow for all service / utility entries into building.	1	item			
J	Allow for clearing away and disposal of any rubbish.	1	item			
K	Provide safe access to roofspace to facilitate Mechanical installation work.	1	item			
L	Making good of opes for fire smoke dampers.	1	item			
M	Provide and maintain the specific temperatures and humidity levels.	1	item			
N	Contractor to provide for the construction of a walkway within the Attic space for service and maintenance of water and ventilation services.	1	item			
P	Contractor to ensure all existing services shut downs for connecting in new and changeovers shall be carried out between 10pm on a Sunday Night and 6pm on a Monday morning, to avoid any interruptions of the running of the existing school; times to be agreed with school management.	1	item			
Q	Provide plywood protective cover over boiler for protection.	1	item			
	Unload, hoist distribute, and place in position the following items of plant and equipment:					
R	Gas boiler	1	item			
S	Heat pumps	1	item			
T	Pumps	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Sundries & Builders Work					
	General					
A	Marking positions of holes, mortices and chases	1	item			
B	Testing & Commissioning	1	item			
C	Preparing drawings of "as completed" installations	1	item			
D	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
E	Keys, tools and spares	1	item			
	In-situ concrete; plain; to IS EN 206; Grade C30; formwork to sides of platform, powerfloating finish; all in strict accordance with the Engineers Drawings and Specification					
	Bases					
F	Size 850mm x 1650mm x 100mm thick	1	nr			
G	Size 1850mm x 1100mm x 100mm thick	1	nr			
H	Size 2650mm x 1850mm x 100mm thick	1	nr			
	Equipment supports; provide mounting grounds for the installation of the following fittings; making good structure and finishes; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
	Equipment supports					
J	Provide wall fixings for portable fire extinguishers to walls at 1500mm above floor	2	nr			
	Forming or cutting holes; including sleeves/plates, making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
K	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
L	cutting or forming opes is deemed to include the making good and sealing of the ope around the pipe or duct		note			
	For ducts/pipes through exisitng external cavity blockwork wall, include for building in sleeves; weather proofing, making good all finishes on completion					
M	Size 1000mm x 250mm opes	1	nr			

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification and Drawings					
	Special works were services pass through structures; external walls, making good all finishes on completion					
A	Size 1000mm x 250mm opes	1	nr			
				To Collection €		

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.6/7					
Page No. Lot 8.6/8					
Page No. Lot 8.6/9					
Page No. Lot 8.6/10					
Page No. Lot 8.6/11					
Page No. Lot 8.6/12					
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Page No. Lot 8.6/15					
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Page No. Lot 8.6/18					
Page No. Lot 8.6/19					
Page No. Lot 8.6/20					
Page No. Lot 8.6/21					
Page No. Lot 8.6/22					
Page No. Lot 8.6/23					
Page No. Lot 8.6/24					
Page No. Lot 8.6/25					
Page No. Lot 8.6/26					
Page No. Lot 8.6/27					
Page No. Lot 8.6/28					
Page No. Lot 8.6/29					

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.6/30					
Page No. Lot 8.6/31					
Page No. Lot 8.6/32					
(5-) MECHANICAL INSTALLATION **Carried to Summary**					

					€	c
	(6-) ELECTRICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Existing ESB Meter; safe isolation, disconnection, decommissioning and removal of the existing ESB meter installation associated with the school#s main switchboard; Trace and identify the incoming ESB supply cable from the intake point to the main switchboard; Works shall include full coordination with ESB Networks and compliance with all statutory requirements; making good all disturbed finishes; all in strict accordance with Electrical Specification and Drawing E-6000	1	Item			
C	Alterations to existing switch board MDB-1 to facilitate the installation of new 80A TP&N sub-mains connection (sub-main cable & TP&N device measured elsewhere); allow for safe isolation and disconnection of existing sub-mains and disposal off site; modify existing DB as required to accommodate the new connection; Include all isolation, shutdown coordination, and commissioning; all in strict accordance with Electrical Specification and Drawing E-6000	1	item			
	Notes					
D	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
E	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
F	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			

(6-) ELECTRICAL INSTALLATION (Cont)

ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES

(61) ELECTRICITY SUPPLY & MAIN DISTRIBUTION - LV INSTALLATIONS

System

LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000

A	LV Installations	1	item			

Equipment

Main Switch Distribution Board; supply and installation; complete; Enclosure Type: Form 4B Type 2; Material Body: Electro galvanised iron-phospated steel plate; Frame: 2.5mm thick steelwork, Doors/covers: 2mm steelwork, Finish: epoxy self etching filler primer undercoat, 2nr stove enameled synthetic paint finishing coats; Colour: Light grey, RAL 7035, powder lacquered; Cable Entry: bottom; Cable Exit: Top; IP Rating: IP54; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; HOA switches, Integral isolating switches, CTU's, open/closed contractors; remote key switches, phase indicator lamps, time clocks, metering, surge protection, space for future power factor correction equipment and automatic changeover; earth terminal; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in accordance with the Electrical Project Particular Specifications and Drawing E-6000

B	Distribution board; Ref: MDB-2; Location: Switch room	1	nr			

Fittings

C	Isolation device; supply and installation; complete; terminating of incoming and outcoming cabling; all in accordance with the Electrical Specifications					
D	Isolation device; 63A TPN	1	nr			
E	Isolation device; 80A TPN	1	nr			
F	Isolation device; 125A TPN	1	nr			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	2	nr			
	Rubber Mat; supply and installation; complete; The contractor shall supply and install a suitable slim rubber mat for each LV switchboard complying with BS 91 - 1976 adjacent each switchboard. The mat shall be 1 metre wide and shall run the complete length of the main switchboard and shall be fixed securely to avoid potential trip hazards; all in accordance with the Electrical Specifications					
B	Insulated matting; Ref: MDB-1, Existing	1	nr			
C	Insulated matting; Ref: MDB-2	1	nr			
	Main switchboard circuit chart; 'A1' framed drawing of the switchboard to be installed within the switch room; the drawing shall be framed with a perspex cover; include for all accessories; in strict accordance with the Electrical Specification					
D	Main switchboard; Ref: MDB-1	1	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
E	Circuit charts to switch boards; Ref: MDB-2	1	nr			
	Health Safety & Shocks Chart; the contractor shall provide an 'Electrical Review' First Aid Chart, 508 mm x 381 mm, wall chart of Instructions for Dealing with Electric Shock, located alongside each LV switchboard, These shall be printed in red and black, sheathed in plastic; all in accordance with the Electrical Specifications					
F	Health Safety & Shocks Chart	1	nr			
	<u>Mains and Sub-mains cables</u>					
	Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
G	Submains Ref: 5; REN-01 to MSB-1; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
H	Submains Ref: 5; REN-01 to MSB-2; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 4; MSB-02 to ASHP01; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
B	Submains Ref: 4; MSB-02 to BMS Panel; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Specification					
C	General earthing and bonding	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
E	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
F	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
G	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
H	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
J	Identification plates, labels and the like	1	item			
				To Collection €		

(6-) ELECTRICAL INSTALLATION (Cont)

(62) POWER - CONTAINMENT

System

Cable ladder/ tray/ trunking installation, testing and commissioning; complete; The Contractor must allow for the supply and installation of a complete cable support system using cable tray, trunking, conduit and support steelwork as shown on the drawings and as detailed in the specification. The Contractor shall include for all incidental cable containment which may not be shown on the drawings but which may be required to effect cable routes to individual items of equipment, luminaires etc; include for all joints, fixing brackets and supports; all exposed and extraneous conductive parts are to be boned and properly earthed in accordance with current wiring regulations; all in accordance with the Electrical Engineers Specification and Drawings E-6001

A	Cable Tray; Submains; heavy duty galvanised steel; size 200mm wide x 60mm high; complete	1	item		
B	Cable Basket; CAT 6A cable; heavy duty galvanised steel; size 100mm x 65mm wide; complete	1	item		
C	Conduit; galvanised steel; size 25mm diameter; complete	1	item		
D	Conduit; galvanised steel; size 50mm diameter; complete	1	item		
E	Conduit; flexible steel; size 25mm diameter; complete	1	item		

General Earthing and Bonding

General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification

F	General earthing and bonding	1	item		

General

Testing and commissioning; all in accordance with Engineers Specification

G	Testing and commissioning; complete	1	item		

Operating and maintenance manuals; all in accordance with Engineers Specification

H	Operating and maintenance manuals; complete	1	item		

Working drawings; all in accordance with Engineers Specification

J	Working drawings; complete	1	item		

Co-ordination drawings; all in accordance with Engineers Specification

K	Co-ordination drawings; complete	1	item		

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like; complete	1	item			
	(62) POWER - GENERAL SERVICES					
	System					
	General Services and small power installation, testing and commissioning; complete; to include vampire load design strategy; all in accordance with the Electrical Specification and Drawings ME-5801					
C	General Services Installation	1	item			
	Accessories associated with terminal equipment					
	Isolation device; supply and installation (including wiring); complete; surface mounting; include for all accessories and fixings; c/w galvanised steel back boxes; include for all accessories and fixings; all in strict accordance with the Electrical Specification					
D	16amp SPN Isolator	13	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
H	Working drawings	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with Engineers Specification					
A	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
B	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
C	Identification plates, labels and the like	1	item			
	(65) PROTECTIVE SERVICES - EARTHING AND BONDING					
	System					
	Earthing and Bonding; installation; testing and commissioning; The Electrical Contractor shall supply, install, test and commission a complete earthing and bonding system in accordance with the Electricity Supply Company requirements, current best practice, I.S. 10101, this Specification and Drawings. The Electrical Contractor shall form an equipotential zone in the building to provide protection against indirect contact, by bonding all extraneous and exposed conductive parts to the main earth terminal; all in accordance with the Electrical Engineers Specification and drawing E-6000					
D	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
E	Main Earth Terminal Bar	1	nr			
	Main earth conductor cable; supply and installation complete; 95mm2 LSF green/ yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
F	Earth terminal bar to earth pits	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Main earth conductor cable; supply and installation complete; Cable 95mm2 LSF green/yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
A	From MSB-2 to earth terminal bar	1	item			
	Main equipotential earth bonding; Cable: 95mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
B	Incoming Water Main	1	item			
C	Incoming Gas Main	1	item			
D	Metal drainage pipes	1	item			
E	Structural Steelwork	1	item			
F	Main Heating Pipework	1	item			
G	Main Ventilation Ductwork	1	item			
H	Lightning Protection System	1	item			
J	Lift shaft steel work	1	item			
K	Eircom DP	1	item			
	Main equipotential earth bonding; Cable: 16mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
L	Earth terminal bar to Comms cabinets	1	item			
	Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations; all in accordance with the Electrical Engineers Specification					
M	Metallic Wireways and Containment	1	item			
N	Suspended Ceiling Grids	1	item			
P	Wash Hand Basins	1	item			
Q	Showers	1	item			
R	Sinks	1	item			
S	WC's	1	item			
T	Cleaners Sinks	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Catering equipment	1	item			
B	Metal worktops	1	item			
C	Plant room Pipework	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
D	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	(65) SECURITY & PROTECTION - SURGE PROTECTION					
	System					
	Transient & Over voltage Protection installation, testing and commissioning; TSurge Protection Devices (SPDs) shall be installed in switchboards and distribution boards as described below to suppress over voltages and transients due to network disturbances and or lightning strikes. Class 1 & 2 SPDs shall be fitted to each main switchboard at supply the intake point. Class 2 SPDs shall be fitted downstream at each local distribution board. These units shall be rail mounted within a dedicated compartment of the switchboard or distribution board. SPDs shall comply with IEC/EN 61643 11:2012 guidelines; all in accordance with the Electrical Engineers Specification and Drawing E-6000					
A	Transitent & Overvoltage Protection	1	item			
	Fittings					
	Surge Suppression Devices; installation (including wiring); complete; all in strict accordance with the Electrical Engineers Specification					
B	Surge Protection Type 1; MDB-2	1	item			
C	Surge Protection Type 1; REN-1	1	item			
D	Surge Protection Type 4; ASHP01 submains	1	item			
E	Surge Protection Type 4; BMS Panel submains	1	item			
F	Surge Protection Type 5; MDB-1 submains	1	item			
G	Surge Protection Type 5; MDB-2 submains	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
H	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
J	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
K	Operating and maintenance manuals	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Working drawings; all in accordance with Engineers Specification					
A	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
B	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
C	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
D	Identification plates, labels and the like	1	item			
	(68) BMS WIRING INSTALLATIONS					
	System					
	BMS Wiring Installation; testing and commissioning; complete; Electrical Contractor must provide and issue as installed drawings for all electrical cabling associated with mechanical services. All wiring for mechanical services must be carried out under this contract to include wiring for heating, ventilation etc. The wiring to all mechanical devices must be taken from dedicated MCC (motor control center) panels supplied as a 'Free Issue' item by the Mechanical Contractor as part of the BMS installation, and must be installed and connected up by the electrical contractor. Generally, the MCC panels must be installed in boiler houses, plant rooms, etc.; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
E	BMS Wiring Installation	1	item			
	Equipment					
	Mechanical Control Panel; Mechanical and BMS wiring installation, testing and commissioning; complete; The Contractor shall allow for all wiring associated with the installation of the MCC and BMS outstations; The Contractor shall allow for all switchgear as indicated on the electrical services connection schedules and reflected on the electrical services layouts; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
F	Mechanical Control Center; Ref: MCC Panel, Location: Boiler Room	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Fittings					
	BMS final connections and wiring installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV / control wiring cables fed from the BMS panel (Location: exisitng school plant room) to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Electrical Engineers Specifications and Drawing ME-5801					
A	Point 002; Fire Alarm Interface	1	nr			
B	Point 003; CAT 6A to local Comms cabinet	1	nr			
C	Point 004; MDB surge protection alarm signal	1	nr			
D	Point 005; Boiler supply (B1)	1	nr			
E	Point 006; Enable/ Fault	1	nr			
F	Point 007; Gas fired water heater	1	nr			
G	Point 008; Enable/ Fault	1	nr			
H	Point 009; Pressurissation unit supply (PU1)	1	nr			
J	Point 010; High/Low level Fault	1	nr			
K	Point 011; LPHW (P1) - Primary circuit	1	nr			
L	Point 012; Enable/ Fault	1	nr			
M	Point 013; LPHW (P2) - Circuit 2	1	nr			
N	Point 014; Enable/ Fault	1	nr			
P	Point 015; LPHW (P2) - Circuit 1	1	nr			
Q	Point 016; Enable/ Fault	1	nr			
R	Point 017; Zone valve circuit 2	1	nr			
S	Point 018; Enable/ Fault	1	nr			
T	Point 019; Zone valve circuit 3	1	nr			
U	Point 020; Enable/ Fault	1	nr			
V	Point 021; Heat pump primary (P3)	1	nr			
W	Point 022; Enable/ Fault	1	nr			
X	Point 023; DHW return pump (P4)	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 024; Enable/ Fault	1	nr			
B	Point 025; Heat meter supply - Boiler	1	nr			
C	Point 026; Heat meter pulsed signal	1	nr			
D	Point 027; Heat meter supply - Heat Pump	1	nr			
E	Point 028; Heat meter pulsed signal	1	nr			
F	Point 029; Gas Detection Panel	1	nr			
G	Point 030; Valve Position /Ststus	1	nr			
H	Point 031; Outdoor Air Temp Sensor (north wall)	1	nr			
J	Point 032; ASHP primary flow immersion temp sensor	1	nr			
K	Point 033; ASHP primary return immersion temp sensor	1	nr			
L	Point 034; ASHP flow high limit stat	1	nr			
M	Point 035; Boiler primary flow immersion temp sensor	1	nr			
N	Point 036; Boiler primary return immersion temp sensor	1	nr			
P	Point 037; Boiler flow high limit stat	1	nr			
Q	Point 038; LPHW heating circuit flow temp sensor (P1)	1	nr			
R	Point 039; LPHW heating circuit return temp sensor (P1)	1	nr			
S	Point 040; LPHW buffer vessel temp sensor	1	nr			
T	Point 041; LPHW buffer outlet flow temp sensor	1	nr			
U	Point 042; LPHW buffer outlet return temp sensor	1	nr			
V	Point 043; DHWS flow temp sensor	1	nr			
W	Point 044; DHWS return temp sensor	1	nr			
X	Point 045; DHWS high linit stat	1	nr			
Y	Point 046; Mains water incoming meter (pulsed signal)	1	nr			
Z	Point 047; LPG gas meter boiler supply (pulsed signal)	1	nr			
AA	Point 048; Run on timer - circuit 1	1	nr			
BB	Point 049; Run on timer - circuit 2	1	nr			
CC	Point 050; Run on timer - circuit 3	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 051; Run on timer - circuit 4	1	nr			
B	Point 052; MODBUS interface to ASHP	1	nr			
C	Point 053; Electrical switchboard meters (MODBUS)	1	nr			
D	Point 054; Future - power & control cable to temp stats	1	nr			
	Final Circuits (including all points terminations)					
	Final Circuits; installation, testing and commissioning; Complete; Final circuits shall be fed from local sub-distribution board; Installation: Sub-circuit wiring 4c 2.5mm2 LSZH & 2.5 CPC; shall be drawn in concealed galvanized steel conduit and/or galvanized steel trunking; all in accordance with the Electrical Engineers Specification and Control points schedule					
	Final Circuits - BMS Panel					
E	Power - Boiler (B1)	1	nr			
F	Power - Gas fired water heater	1	nr			
G	Power - Pressurisation Unit (PU1)	1	nr			
H	Power - LPHW (P1) - Primary circuit	1	nr			
J	Power - LPHW (P2) - Circuit 1	1	nr			
K	Power - Zone valves - Circuit 1	1	nr			
L	Power - Zone valves - Circuit 2	1	nr			
M	Power - Zone valves - Circuit 3	1	nr			
N	Power - Heat pump primary (P3)	1	nr			
P	Power - DHW return pump (P4)	1	nr			
Q	Power - Heat meter supply - Boiler	1	nr			
R	Power - Heat meter supply - Heat Pump	1	nr			
S	Power - Gas Detection	1	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
T	General Earthing and Bonding; complete		item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers Specification Documents					
A	Testing and commissioning; complete		item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers Specification Documents					
B	Operating and maintenance manuals; complete		item			
	Working drawings; all in accordance with the Electrical Engineers Specification Documents					
C	Working drawings; complete		item			
	Co-ordination drawings; all in accordance with the Electrical Engineers Specification Documents					
D	Co-ordination drawings;complete		item			
	As built drawings; all in accordance with the Electrical Engineers Specification Documents					
E	As built drawings; complete		item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers Specification Documents					
F	Identification plates, labels and the like; complete		item			
	ELECTRICAL INSTALLATIONS					
	Sundries and Builders Work					
	General Attendances					
G	Provide all general attendances in accordance with Arm 4.	1	item			
H	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
J	Provide use of the Main Contractors scaffolding.	1	item			
K	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
L	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
B	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
C	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
D	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
E	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
F	Include for unloading, hoisting/cranage and placing into position all items of heavy plant supplied by the subcontractors.	1	item			
G	Allow for maintaining all ducts, chases , trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
H	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
J	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
K	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	<u>Special Attendances</u>					
L	Provide all special attendances in accordance with Arm 4 Work Section B Clause 3.1	1	item			
M	Provide temporary access roads and hardstanding in connection with heavy items of plant and the like, forming part of the site establishment works	1	item			
N	Provide scaffolding internal and external to the building to facilitate installation of high-level electrical services during the contract	1	item			
P	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
Q	Provide adequate barriers/tape/signage of exclusion zoning in relation to use of access equipment and ACOPs for working at height	1	item			
R	Provide construction signage (internal and external) in relation to M&E services e.g live systems etc.	1	item			
S	Provide temporary lighting and power in accordance with IS10101 Wiring Regulations.	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide protection to all M&E services installations installed during the works including protection against debris and water ingress	1	item			
B	Provide fire stopping to all electrical services on the vertical and horizontal planes throughout the entire buildings	1	item			
C	Ensure close coordination during the building phase to ensure electrical, ventilation and mechanical services are installed and integrated within the building fabric as designed.	1	item			
D	Provide grounds and fixings for suspension of Electrical services; Electrical loading = 10kg/m Mechanical loading = 40kg/m	1	item			
E	Provide boxing out of containment and pipework as necessary, boxing to be accessible with screwed access.	1	item			
F	Main contractor shall employ a full time M&E Co-ordinator for the duration of the contract works and their duties shall include but not limited to details set out within the specification A2.4 Part 1 of 4 particular specification document	1	item			
G	Contractor shall be aware that drawings are indicative only including the minimum ope sizes; It will be the contractors responsibility in conjunction with their in-house M&E services coordinator to produce construction stage builders works drawings for DT comment	1	item			
H	Provide safe access and task lighting for electrical sub-contractor to all sections of school roofspace	1	item			
J	Provide safe access for electrical sub-contractor to all sections of the site	1	item			
K	The M&E installation within the SEN accommodation is to be a fully recessed installation. The contractor shall include for casting in of all electrical services and recessing of all radiators within the wall panels	1	item			
L	Seal all incoming services to prevent ingress of vermin	1	item			
M	Fire Stopping to all services penetrations throughout	1	item			
N	Attendance to electrical sub-contractor	1	item			
P	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
Q	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
R	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
S	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
B	Provide temporary power supplies (3 phase 400V and maximum loading 15kVA) for welding, handtools, and for commissioning, including infrastructure and all charges fot the contractors use of the facility.	1	item			
C	Provide scaffolding additional to the main contractors standing scaffolding, or access towers if required.	1	item			
D	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day	1	item			
E	Provide facilities for safe removal and disposal of all materials off site	1	item			
F	Provide a week by week program detailing the Mechanical and Electrical service activities	1	item			
G	Provide for heating / drying out the building as and when necessary to comply with their program. This may be done (at the clients specific consent) with the installed conventional heating system (if available). Be responsible, however, for providing the fuel to do this. Be responsible for maintaining background heat until the building is handed over to the client, after the heating system has been commissioned	1	item			
H	Provide and maintain the specific temperatures and humidity levels	1	item			
J	Provide Builders Attendances to all utility services as follows; Gas Networks Ireland, Eir, Virgin Media, Local Authority, ESB Networks.	1	item			
K	Fire stopping requirements of all services penetrations through fire compartment structures to be the responsibility of the building contractor. In addition, all pipework, ductwork, containment and service penetrations shall be fire-stopped where passing through every wall, floor and ceiling regardless if its a fire compartment or not by main contractor. Refer to M&E services drawings indicating main routes of M&E infrastructure. All instances of firestopping shall be labelled and certified using CE certified products including fire-pillows for use inside electrical trunkings.	1	item			
	Unload, hoist, distribute and place in position the following items of heavy plant and equipment					
L	Main switch board	1	item			
M	Sub-distribution boards	1	item			
N	MCC panel	1	item			
P	Containment	1	item			
Q	Cabling	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Lighting	1	item			
	Sundries & Builders Work					
	General					
B	Marking positions of holes, mortices and chases	1	item			
C	Testing & Commissioning	1	item			
D	Preparing drawings of "as completed" installations	1	item			
E	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
F	Keys, tools and spares	1	item			
	Forming or cutting holes/mortices/chases and the like; including sleeves/plates, intumescent collars; making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
G	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
H	cutting or forming opes is deemed to include the making good and sealing of the ope		note			
	Cutting or forming holes through existing external walls various thicknesses; include for building in sleeves; making good all finishes on completion					
J	200mm x 150mm opes	1	nr			
K	600mm x 150mm opes	2	nr			
	Cutting or forming holes through existing internal walls various thicknesses; include for building in sleeves; making good all finishes on completion					
L	200mm x 150mm opes	4	nr			
M	600mm x 150mm opes	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification P12					
	Special works were services pass through structures; existing external walls various thicknesses, making good all finishes on completion					
A	200mm x 150mm opes	1	nr			
B	600mm x 150mm opes	2	nr			
	Special works were services pass through structures; existing internal walls various thicknesses, making good all finishes on completion					
C	200mm x 150mm opes	4	nr			
D	600mm x 150mm opes	1	nr			
				To Collection €		

				€	c
(6-) ELECTRICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.6/35					
Page No. Lot 8.6/36					
Page No. Lot 8.6/37					
Page No. Lot 8.6/38					
Page No. Lot 8.6/39					
Page No. Lot 8.6/40					
Page No. Lot 8.6/41					
Page No. Lot 8.6/42					
Page No. Lot 8.6/43					
Page No. Lot 8.6/44					
Page No. Lot 8.6/45					
Page No. Lot 8.6/46					
Page No. Lot 8.6/47					
Page No. Lot 8.6/48					
Page No. Lot 8.6/49					
Page No. Lot 8.6/50					
Page No. Lot 8.6/51					
Page No. Lot 8.6/52					
Page No. Lot 8.6/53					
Page No. Lot 8.6/54					
(6-) ELECTRICAL INSTALLATION **Carried to Summary**					

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND					
	EXCAVATION AND EARTHWORK					
	Excavation					
	Excavation					
	Reduce levels					
A	Depth between not exceeding 2.00m	3	m3			
	Extra on Excavation Items for:					
	Breaking up existing					
B	Hard surfaces; Tarmacadam surface; 100mm thick; complete	3	m2			
	Disposal					
	Water					
C	Surface	1	item			
D	Ground	1	item			
	Excavated material; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
E	Disposal off site	2	m3			
F	Disposal off site; existing Tarmac; Disposal to a suitable licensed waste disposal facility	1	m3			
	Filling with hardcore to be obtained off-site; clean angular gravel 20mm, free from pyrite and macarsite as per specification					
	To make up levels					
G	Average thickness not exceeding 250mm	1	m3			
	Filling with hardcore to be obtained off-site; Clause 804 crushed stone well compacted on firm clean formation; compliant with TII Publications series 800, free from pyrite and macarsite as per specification					
	To make up levels					
H	Average thickness not exceeding 250mm	1	m3			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Filling with granular fill material to be obtained off-site; Class 6F2 compliant with TII Publications series 600, free from pyrite and macarsite; depositing in 150mm layers maximum thickness; compacting; as per Drawings and Specification					
	To make up levels					
A	Average thickness exceeding 250mm	1	m3			
	Surface treatments					
	Levelling and compacting; bottom of excavations					
B	Horizontal	3	m2			
	CONCRETE WORK					
	In-situ Concrete					
	Concrete cubes for testing					
	Provide for making concrete cubes from freshly mixed concrete; transporting and testing cubes; all as per details in the Specification					
C	Size 150 x 150 x 150mm	1	nr			
	In-situ Concrete; Reinforced					
	Grade C40/5-XF4 to IS EN 206					
	Beds					
D	Generally; Reinforced	1	m3			
	Surface Finishes					
	Brushed finish to wet concrete as per Specifications					
E	Generally	3	m2			
	Reinforcement					
	Fabric					
	A252 mesh reinforcement; 350mm laps; 350mm end laps; all in strict accordance with the Engineers Drawings and Specification					
F	Horizontal	3	m2			

To Collection €

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Formwork					
	Formwork Generally					
	Sides of beds					
A	Height or width 250 - 500mm	8	m			
B	Extra over for forming recess in floor slab for district heating pipe; comprising 65mm dia x 400mm deep recess; include for cutting to all angles and corners	4	nr			
	SURFACE PAVINGS, FENCING AND LANDSCAPING					
	Fencing					
	Reflective Acoustic Post and Panel Fencing; Birkdale DuraPost or equivalent, comprising of commercial DuraPosts constructed from cold rolled pre-galvanised (DX51D Z275NA-C) steel, manufactured to EN 10346. Treated Redwood Acoustic Timber Boards constructed from 70% PEFC Certified 200mm x 47mm slow-grown redwood boards. The rebated capping is constructed from 85mm x 35mm twice weathered 70% PEFC Certified slow-grown redwood. EPDM Rubber Seal 10mm thick x 50mm wide Cellular Adhesive EPDM Sponge Strip. A general purpose sponge rubber with excellent resistance. Static Load Testing; 1447kg / 14.2kN. Acoustic Rating; 28dB Reduction. ass/M2 (Timber Boards) 23.7kg/M2. 350 x 350 x 600mm Grade C30/37 concrete bases set 100mm below ground level; all as per Specification and Drawing					
	Acoustic Paladin Fencing System					
C	2400mm high above ground level	8	m			
	Extra over for					
D	Angle posts; 60x60x2 SHS posts, 2400mm high above ground level and 900mm below ground level; set in 450x450x600mm deep concrete grade C28/35 base	4	nr			
	Gates					
E	Single gate; opening size approx 1000 x 2400mm high	1	nr			
	100x100x10 SHS hot dipped galvanised SHS powder coated post; gate posts set in 1000x1000x1000mm C28/35 concrete pocket; top of concrete 300mm below ground level; galvanised to Specification and polyester powder coating to Specification in selected colour, colour to be chosen by the Architect from samples provided on site by the Contractor; complete					
	Gate Posts					
F	100 x 100 SHS posts; 2400mm high above ground level and 900mm below ground level; min 600mm embedment in concrete	2	nr			

				€	c
(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
COLLECTION					
Page No. Lot 8.6/56					
Page No. Lot 8.6/57					
Page No. Lot 8.6/58					
(30) SITE ENCLOSURES - PLANT COMPOUND **Carried to Summary**					

					€	c
	(50) SITE SERVICES - DISTRICT HEATING					
	DRAINAGE/SERVICES - DISTRICT HEATING					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr duct not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported compacted stone fill; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations; as per Engineer's Drawing					
C	Average depth 500 - 1000mm	5	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
D	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	5	m			
	Around existing services crossing excavations					
E	Storm pipe; crossing excavations	3	nr			
F	Foul pipe; crossing excavations	2	nr			
G	ESB; crossing excavations	2	nr			
	Disposal					
H	Ground water	1	item			
J	Surface water	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES - DISTRICT HEATING (Cont)					
	Sand bed and surround; to Engineer's Specification					
	Beds and Surrounds					
A	525 x 250mm; to 2nr 125mm duct	5	m			
	PVC marker tape; "Heptape" or equivalent					
B	Continuous strip; laid during trench backfill; 100mm above pipework	5	m			
	Ductwork					
	125mm diameter					
C	Laid in trenches	10	m			
D	Extra over for easy sweep bends	2	nr			
	MECHANICAL INSTALLATIONS					
	Generally					
	General; complete; refer to M&E Drawings, M&E Mechanical Engineering General Specification					
	General					
E	Testing and commissioning; all in accordance with Engineers specification documents and drawings	1	Item			
F	Operating and maintenance manuals; all in accordance with Engineers specification documents and drawings	1	Item			
G	Working drawings; all in accordance with Engineerss specification documents and drawings	1	Item			
H	Co- ordination drawings; all in accordance with Engineers specification documents and drawings	1	Item			
J	As built drawings; all in accordance with Engineers specification documents and drawings	1	Item			
K	Identification plates, labels and the like; all in accordance with Engineers specification documents and drawings	1	Item			
L	Builderswork; forming and cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels etc. and amking good, all in accordance with Engineers specification documents and drawings	1	Item			
M	Fire stopping and other associated fire protection works; all in accordance with Engineers specification documents and drawings	1	Item			

(50) SITE SERVICES - DISTRICT HEATING (Cont)

COLLECTION

Page No. Lot 8.6/60

Page No. Lot 8.6/61

(50) SITE SERVICES - DISTRICT HEATING
Carried to Summary

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	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by Semple McKillop Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
				To Collection €		

(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)

ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS

(50) SITE SERVICES (MAINLY MECHANICAL) - HEAT PUMPS

System

External Air source Heat Pump installation, testing and commissioning; complete with all associated plant, pipework, valves, controls, insulation, frost protection, fully integrated with the building heating system; The heating system shall be flushed and provided with appropriate chemical treatment; The contractor shall provide, prior to handover, a commissioning certificate to confirm that correct treatment has been carried out; all in strict accordance with the Mechanical Engineers Specification Volume 1; Volume 2; Volume 3; Volume 4 and Drawings M-5601

Primary Equipment

Air Source Heat Pump; The Contractor shall supply, install, test and commission packaged high efficiency, low noise, electric Air Source Heat Pump; complete; Heating Capacity (kW): 11kW; CoP (W/W): 2.7; SCoP (W/W): 3; Efficiency (%): 135; Compressor Type: Semi-Hermetic; Minimum Number of Compressors: 2; Source Heat Exchanger: Cu/Al pipes and fins with hydrophilic coating #Blue Fins#; User Heat Exchanger: Braze Welded Plate, Heat Exchanger (AISI 316 Stainless Steel) c/w closed cell insulation and discharge temp sensor for anti-freeze protection; Refrigerant Type: R290; Outdoor Air Temp (øC): -3.0; Outdoor Relative Humidity (%): 80; Fluid Type: Water; In/Out Fluid Temp (øC): 50.0 / 55.0; Super Low Noise: Required; Max Fan RPM: 900 (low noise); Construction: Galvanised Sheet Steel painted with polyurenate powder enamel c/w removable panels; Control & rotection Devices: Required; Control Panel: Microprocessor based c/w display showing all operational icons and connections for MODBUS protocols; Serial Interface Card RS485: Required to allow the controller to communicate using Modbus Protocol; Head Pressure Control: This device, using a pressure probe installed on the source heat exchanger, controls the fan speed with respect to the ambient conditions; Accessories: Rubber Antivibration feet/pad, Condensate Drip Tray, Anti Freeze Kit, Pressure Gauges, Master / Slave Cascade Control system, Outdoor Air Temperature Sensor for Weather Compensation, Hydraulic Kit comprising centrifugal circulating pump c/w safety valve & fill/drain point; Defrost: Method Reverse Cycle; Defrost Control: Sensor for outdoor temperature; Warranty: 5 year parts and labour; include for all accessories; all in strict accordance with the Mechanical Engineers Equipment Schedule no. 1.1

To Collection €

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
Warranty Requirements: The Tenderer shall ensure that all heat pump equipment supplied and installed under this contract is covered by a minimum warranty period of five (5) years post date of substantial completion.The warranty must ensure cover of:#Compressor, refrigerant circuit, heat exchangers, controls, and all major components#Labour, parts, diagnostics, and call outs for warranty repairs#No exclusions applied since operating due to typical operating profiles defined in this documentWarranty validity shall be dependent upon:#Correct system design and installation#Proper commissioning by competent personnel#Operation within the design parameters described below#Compliance with the maintenance regime set out in this section#Internet connection for continuous diagnostics (applicable to certain manufacturers)Where longer manufacturer warranties or reduced frequency service requirements are available at no additional cost, or at a cost saving, the Tenderer must include these within the tender. Service & Maintenance Requirements: The Tenderer shall allow for the minimum maintenance regime for the installed heat pump system in the tender pricing in order to maintain the 5-year warranty. Service Frequency# One service visit preferably every two (2) years, unless the equipment manufacturer explicitly requires a shorter interval (minimum one (1) year).(Tenderers shall only price for annual servicing if supported by documented manufacturer requirements.)#It is in the Tenderer#s interest to negotiate with heat pump manufacturers for longer service intervals in order to price their bid competitively."Minimum Service Scope (Biennial Visit): Each service visit must include at minimum:# Inspection and performance review of the refrigerant circuit# Verification of electrical connections and controls# Checks on hydraulic conditions (flow rates, pressures, pump performance)# Cleaning of filters, strainers, and debris screens# Cleaning of coil and fins. # Verification of correct operation, setpoints, and system sequencing# Review of system logs and operational history to confirm stable operationMaintenance must be carried out by competent personnel and appropriately recorded.Tenderers, must include all maintenance requirements to maintain the heat pump warranty for the 5 year period post substantial completion, in their tender pricing. Normal Design & Operating Parameters:For warranty purposes, #normal design conditions# refer to operation within the system#s intended thermal and hydraulic envelope, including:Project Specific OperationFor the installations considered in this project:# Systems are designed for ~55øC flow temperatures to maximise efficiency and minimise equipment stress, with the ability to operate at higher temperatures during peak demand within heat pump limits.# Backup boilers (gas/oil) will support peak loads and extreme conditions# The buildings have predictable, daytime based occupancy profiles and low annual running hours due to being schools# Heat pumps will operate predominantly during controlled and stable load conditionsThese factors result in:# Predictable and stable thermal loads# Reduced mechanical and thermal cycling# Lower probability of component stress or degradation# Improved reliability and long term warranty compliance					
			To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Tender Note # Commercial & Technical Expectations:Tenderers must base their submission on the following assumptions:# The systems are conservatively designed and operate comfortably within their capabilities# There is no reliance on electric backup# Operating conditions are stable due to predictable school occupancy profiles# A minimum 5 year warranty must be provided# Only the biennial service visit (once every two years) shall be priced into the tender unless the manufacturer requires otherwise# Tenderers are strongly encouraged to secure extended service intervals from their suppliers to improve lifecycle cost efficiency					
A	Air source heat pump Ref: ASHP-01; Location: External plant compound	1	nr			
	Accessories associated with Primary Equipment					
	Isolation valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
B	65mm Stop valves	2	nr			
	Non-return valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
C	65mm Non-return valves	1	nr			
	Auto-air vent valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
D	65mm Auto-air vent valve	1	nr			
	Test point valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
E	65mm Test point valves	2	nr			
	Pressure Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
F	65mm Pressure Gauge	2	nr			
	Temperature Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
G	65mm Temperature Gauge	2	nr			
	Flexible connections; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
H	65mm Flexible connections	2	nr			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Anti-frost valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Volume 2					
A	65mm Anti-frost valve	1	nr			
	Distribution					
	Pre-insulated, self-compensating, flexible heating pipework and fittings; Miniumum heat loss of 0.216W/m; Insulation: closed cell PUR foam wrapped in corrugated HD PEXa; Operating temp: 95øC; tested to 6 bar; include for all accessories; all in strict accordance with the Mechanical Engineers Specification and Drawings M-5601					
B	65mm diameter pipework	1	item			
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3, Section 1					
C	65mm diameter pipework	1	item			
	Insulation					
	Foiled faced fibreglass insulation; to all new pipework services; class A1, CFC and HCFC free with ozone depletion factor of zero; Thermal conductivity not exceeding 0.04W/m2K at 100øC; all joints taped and sealed; all in strict accordance with the Mechanical Engineers Specification Part 1, Section 4.2					
	Insulation, 40mm thick					
D	to 65mm diameter pipework	1	item			
	Valve jackets provided with Velcro fixings shall be provided on all valves, flanges, pumps and heat exchangers within the plant rooms and externally. All valve jackets used on external pipework shall be weather proof; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
E	General Valve & Plant	1	item			
	Aluminium Cladding; 18mm gauge aluminium, fixed with self-tapping screws; all in strict accordance with the Mechanical Engineers Specification					
F	to 65mm diameter pipework	1	item			
G	General Valve & Plant	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
A	Testing and commissioning	1	item			
B	Testing,chemical dosing, sterilization and certification of all systems	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
C	Operating and maintenance manuals	1	item			
D	Heat pump servicing; One service visit preferably every two (2) years, or in accordance with manufacturers requirements in order to maintain 5 year warranty.	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	(50) SITE SERVICES - TRACE HEATING					
	System					
	Trace Heating installation, testing and commissioning; complete; Trace heating shall be installed on all the water systems where they travel externally between building blocks; Trace heating shall be provided complete with control panels and all required components to prevent system freezing. Capacity of trace heating shall maintain water temperature above 3øC when ambient temperature is -15øC. Trace heating temperature control shall prevent water temperature rising above 10øC. Trace heating system to incorporate air control thermostats and pipework safety cut out thermostats. All trace heating circuits shall be linked to BMS to provide status and fault indication on BMS; Supply electric trace heating complete with fixing tape, shrink sleeves, crimps, junction boxes and controls; all in strict accordance with the Mechanical Engineers Specification and Drawings					
	Primary Equipment					
	Trace heating control panel; all in strict accordance with the Electrical Engineers Specification					
A	Trace heating panel Location: Plant room	1	nr			
	Accessories associated with Primary Equipment					
	Self-regulating heating tape; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
B	Self-regulating heating tape	1	item			
	Air control thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
C	Air control thermostats	1	item			
	Safety cut out thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
D	Safety cut out thermostats	1	item			
	Insulation					
	Modified polyolefin electrical insulation; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
E	65mm diameter pipework	1	item			
F	Valves and Plant; generally	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
A	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
B	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
C	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
D	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
E	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
F	Identification plates, labels and the like	1	item			
				To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.6/63					
Page No. Lot 8.6/64					
Page No. Lot 8.6/65					
Page No. Lot 8.6/66					
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Page No. Lot 8.6/68					
Page No. Lot 8.6/69					
Page No. Lot 8.6/70					
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS **Carried to Summary**					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	5	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	5	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	1	nr			
G	Foul pipe; crossing excavations	1	nr			
H	ESB; crossing excavations	1	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
C	595 x 325mm; to 2nr ducts	5	m			
	PVC Red marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	5	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 300mm above pipework	5	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
F	Laid in trenches	10	m			
G	Extra over for easy sweep bends	2	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
H	Average depth not exceeding 1000mm	1	nr			
	Sundries					
J	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			
K	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
A	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
B	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
C	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
D	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
COLLECTION					
Page No. Lot 8.6/72					
Page No. Lot 8.6/73					
Page No. Lot 8.6/74					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	3	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	3	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	1	nr			
G	Foul pipe; crossing excavations	1	nr			
H	ESB; crossing excavations	1	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
C	595 x 325mm; to 2nr ducts	3	m			
	PVC Red marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	3	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 300mm above pipework	3	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
F	Laid in trenches	6	m			
G	Extra over for easy sweep bends	2	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
H	Average depth not exceeding 1000mm	1	nr			
	Sundries					
J	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			
K	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
A	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
B	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
C	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
D	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
COLLECTION					
Page No. Lot 8.6/76					
Page No. Lot 8.6/77					
Page No. Lot 8.6/78					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES					
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE LV INSTALLATIONS					
	System					
	LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-5001					
D	Site LV Installation	1	item			
	Equipment					
	Metering Switch Board; supply and installation; complete; Enclosure Type: Renely or equivalent; Cable Entry: bottom; Cable Exit: Top; complete with and including 1nr 400amp TP ABC Isolator, earth bond, ESB sealed metering cubicle, metering enclouser (to facilitate future upgarde CT metering), 2nr 400amp TP MCCB, shunt trip; surge protection; 800amp bush bars braced for 50kA AT 1s; 1nr 80amp TP MCCB, 1nr 125amp TP MCCB, 1nr 250amp TP MCC; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in strict accordance with the Electrical Engineers Specification Part 1, include for all accessories; all in accordance with the Electrical Specifications					
E	Metering Switch Board; Ref: REN-1; Location: External	1	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Fittings					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	2	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
B	Circuit charts to switch boards; Ref: REN-1	1	nr			
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
C	Submains Ref: 5; REN-01 to MSB-1; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
D	Submains Ref: 5; REN-01 to MSB-2; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
F	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
G	Operating and maintenance manuals; complete	1	nr			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
A	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
B	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
C	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
D	Identification plates, labels and the like; complete	1	item			
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER TO HEAT PUMPS					
	System					
	Power to Heat pumps installation, testing and commissioning; complete; The electrical contractor shall provide all wiring and power supplies associated with the external heat pumps as detailed on the wiring schematic; all underground electrical services cables shall be distributed within ducts; separate underground service ducts shall be provided as part of the builders works element; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-5001					
E	Heat Pump Power Installation	1	item			
	Accessories associated with terminal equipment					
	Isolator Switch; supply and installation (including wiring); complete; c/w back boxes; all in accordance with the electrical specification					
F	Rotary Isolator; TP; 40amp; external	1	nr			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 4; MSB-02 to ASHP01; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
B	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
C	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
D	Operating and maintenance manuals; complete	1	nr			
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
E	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
F	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
G	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
H	Identification plates, labels and the like; complete	1	item			
				To Collection €		

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	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE EARTHING & BONDING					
	System					
	Earthing and Bonding installation; testing and commissioning; The contractor shall undertake to effectively earth the whole of the electrical installation in accordance with the NSAI I.S. 10101: 2020+A1:2024 Regulations; Main equipotential earth bonding should be provided from each of the following items, as a minimum, to the main earthing bar: Incoming Water Main, Incoming Gas Main, Metal drainage pipes, Structural Steelwork, Main Heating Pipework, Main Ventilation Ductwork, Lightning Protection System, Comms Rooms, Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations: Metallic Wireways and Containment, Suspended Ceiling Grids, Wash Hand Basins, Showers, Sinks, WC's, Cleaners Sinks, Catering equipment, Metal worktops, Plantroom Pipework (e.g. across pumps, valves, vessels, etc.); all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
B	Main Earth Terminal Bar	1	nr			
	Earthing points c/w inspection box; earth electrodes in accordance with I.S 10101:2020; complete; all in strict accordance with the Electrical Engineers Specification					
C	Earthing Points	4	nr			
	Cables					
	Earth conductor cable; supply and installation complete; Cable size 95mm2 LSF earth; mechanically protected throughtout; all in accordance with the Electrical Engineers Specification					
D	Earth terminal bar to earth pits	1	item			
E	Switchboard to earth pits	1	item			
				To Collection €		

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	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
A	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
B	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
C	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
D	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
E	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
F	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
G	Identification plates, labels and the like	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.6/80					
Page No. Lot 8.6/81					
Page No. Lot 8.6/82					
Page No. Lot 8.6/83					
Page No. Lot 8.6/84					
Page No. Lot 8.6/85					
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS Carried to Summary					

				€	c
SUMMARY	**Page No.**				
(10) DEMOLITIONS AND ALTERATIONS	Lot 8.6/2				
(31) EXTERNAL WALL COMPLETIONS	Lot 8.6/4				
(35) & (45) CEILING FINISHES	Lot 8.6/6				
(5-) MECHANICAL INSTALLATION	Lot 8.6/34				
(6-) ELECTRICAL INSTALLATION	Lot 8.6/55				
(30) SITE ENCLOSURES - PLANT COMPOUND	Lot 8.6/59				
(50) SITE SERVICES - DISTRICT HEATING	Lot 8.6/62				
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS	Lot 8.6/71				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP	Lot 8.6/75				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER	Lot 8.6/79				
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS	Lot 8.6/86				
Total amount carried to general summary					
Lot 8.6/1 - Lot 8.6/86.					

8.7 - St Oliver Post primary

					€	c
	(10) DEMOLITIONS AND ALTERATIONS					
	DEMOLITION & ALTERATIONS					
	GENERAL					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYER'S REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Demolitions					
	Removing					
	Fittings and Fixtures					
B	Existing External single door and frame; approx 1000mm wide x 3160mm high; include all fittings, architrives, liners etc; diposal of all material off site	1	nr			
	Removing Finishes					
C	Existing ceiling finishes to certain locations within existing building; disposal of all materials off site; prepare ceilings to receive new finishes	101	m2			

To Collection €

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(10) DEMOLITIONS AND ALTERATIONS (Cont)					
COLLECTION					
Page No. Lot 8.7/1					
(10) DEMOLITIONS AND ALTERATIONS **Carried to Summary**					

					€	c
	(31) EXTERNAL WALL COMPLETIONS					
	METALWORK					
	Non-Structural					
	ALUMINUM DOORS INCLUDING LOUVRE DOORS; The successful contractor will be responsible for the design, supply, fabrication, and installation of the doors all in accordance with the best building practices and systems supplier#s recommendations; The contractor will be responsible for providing all proposals, drawings, samples etc required to satisfy the requirements of the tender and also to demonstrate that the contractor is competent and able to execute the works in a proper and timely manner; The contractor will be responsible but not limited to providing the design team the following documentation in advance of any works been commenced; Providing all test data covering all the proposed systems; After the contractor has been awarded the project they must provide the design team the following prior to any work commencing; A full set of detailed shop drawings showing all the relevant interfaces, systems junctions, flashing details, glass types, and indicting all the surfaces being painted; include for inbuilt screen; as per Architect's specification					
	Composite Items; Doorsets (Louvred Doors)					
A	External Single Door; overall opening size (including frame) 1000mm wide x 3160mm high; comprising 1nr louvred door size 1000mm wide x 3160mm high; complete	1	nr			
				To Collection €		

				€	c
(31) EXTERNAL WALL COMPLETIONS (Cont)					
COLLECTION					
Page No. Lot 8.7/3					
(31) EXTERNAL WALL COMPLETIONS **Carried to Summary**					

					€	c
	(35) & (45) CEILING FINISHES					
	FLOOR, WALL & CEILING FINISHES					
	Suspended Ceiling					
	Proprietary suspended ceiling system; Manufacturer: Submit proposals for Architects approval; Product reference: CasoLine MF suspended ceiling system- or equivalent to Architect#s approval; Suspension system; Hanger type: Gypframe MF8 strap hangers; Top fixings: Gypframe MF12 soffit cleats fixed to concrete soffit or metal deck; Primary grid centres: 1200 mm. Hanger centres: 900 mm; Secondary grid centres: 400 mm; Linings: 1 x 12.5 mm Gyproc WallBoard, Gyproc moistureproof green board where noted on RCP's and in a wet area; Insulation: none; Access Units: Gyproc Profilex access panels; Finishing: Taped seamless finish; Primer/ Sealer; Type: 1 coat of Gyproc Drywall Primer (2 coats where noted as moistureproof green board; Accessories: none; all as per Architects Specification					
	Ceilings; fixed below floor structure					
A	Depth of suspension 500mm - 1000mm	101	m2			
	PAINTING AND DECORATING					
	Painting					
	Emulsion paint; To internal plastered surfaces and fairfaced blockwork; Manufacturer: Submit proposals for Architects approval; Product reference: Dulux trade Diamond Matt (water based tough Scrubbable Matt emulsion); Surfaces: Internal plastered surfaces; Preparation: Tape and fill joints; Initial coats: 40% thinned primer.Thinning Sealing new or bare surfaces: Add up to 1 part clean water to 10 parts paint; Number of coats: 2; Undercoats: As recommended by manufacturer; Number of coats: As recommended by manufacturer; Finishing coats: Washable matt vinyl; Number of coats: 2; all as per Architects Specification					
	Ceilings					
B	Exceeding 300mm	101	m2			

				€	c
(35) & (45) CEILING FINISHES (Cont)					
COLLECTION					
Page No. Lot 8.7/5					
(35) & (45) CEILING FINISHES **Carried to Summary**					

					€	c
	(5-) MECHANICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Modification of existing gas service to accommodate installation of new gas meter (gas meter measured elsewhere), including all necessary alterations, pipework adjustments, fittings, testing, commissioning, and certification, in accordance with Engineers Specification and Drawing M-5601	1	item			
	Modifications to existing heating circuit to accommodate new works (measured elsewhere); including isolation, draining down, cutting into existing pipework, formation of connections, provision of fittings, valves, and supports as required, testing, making good, and full reinstatement of insulation and finishes; all in accordance with the Mechanical Specification and Drawing M-5601					
	Notes					
C	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
D	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
E	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	ASBESTOS REMOVAL					
	DEMOLITION & ALTERATIONS					
	General					
A	The following items are not measured in strict accordance with ARM.		note			
B	The Contractor is refered to the Pre Refurbishment & Demolition Asbestos Survey		note			
C	The Contractor must ensure that any risk of exposure to asbestos is completely eliminated. Contractor to consult with Employer's Representative before any work commences on site.	1	item			
D	The Contractor is advised that there is a notification form to be used for any work involving asbestos. This form must be submitted 28 days prior to the start of such work.	1	item			
E	The Main Contractor / PSCS must appoint a specialist asbestos removal contractor to carry out the asbestos removal & disposal works	1	item			
F	Prior to commencing any demolition or construction works on site all asbestos must be removed from site; in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010	1	item			
G	The Main Contractor / PSCS must appoint a competent independent analyst / accredited laboratory for the purpose of undertaking air sampling, project monitoring and issuing site clearance for reoccupation certification; in conformance with ISO 17025 General Requirements for the Competence of Testing and Calibration Laboratories	1	item			
H	Prior to commencing the asbestos removal works the specialist contractor shall submit (to the PSDP & Employer's Representitive) their Plan of Work (risk assessment / method statement), Design Risk Assessment, and temporary works certificates for the Asbestos Removal works (at least 21 days in advance of commencing the asbestos removal works)	1	item			
J	Prior to commencing the asbestos removal works the specialist contractor shall submit their Plan of Work (risk assessment / method statement), and notify, to the HSA (at least 14 days in advance of commencing the asbestos removal works). The PSCS must also ensure that copies of the notifications are forwarded to the PSDP, Client & Project Manager	1	item			
K	No works may take place on site until the Plan of Work has been drawn up and approved by the Main Contractor / PSCS	1	item			
L	No deviations shall be permitted from the plan of work submitted to the HSA	1	item			
M	Should the Plan of Work require amending / updating (for whatever reason) it must be issued to the PSDP & Project Manager in the first instance, and then the HSA, prior to proceeding with any proposed changes	1	item			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
A	No asbestos removal works may take place in areas occupied by normal construction / project personnel and / or third parties	1	item			
B	An asbestos site clearance for reoccupation certificate(s) must be supplied (by the competent independent analyst / accredited laboratory) to the PSDP & Project Manager prior to commencing any demolition or construction works on site (other than the asbestos removal works); the certificate(s) must include (1) Visual inspection, (2) Air monitoring and (3) The decontamination unit	1	item			
C	After completing Asbestos Removal works the PSCS must ensure that asbestos site clearance for reoccupation certificates are issued to the Project Manager, PSDP, and Client PRIOR to allowing those areas to be opened up to persons (other than those persons directly involved in the asbestos removal works)	1	item			
D	NO Asbestos Containing Waste Material may be removed from the site unless a Waste Transfer Form (removal of Hazardous Waste Material from Site) has been completed and issued to the PSCS / Main Contractor, the PSDP & Project Manager	1	item			
E	The PSCS / Main Contractor must forward copies of final disposal certificates (i.e. completed Waste Transfer Form (final disposal of Hazardous Waste Material)) to the PSDP & Project Manager	1	item			
F	The PSCS / Main Contractor must forward, the following information (as applicable) to the PSDP, for inclusion in the Safety File; Bulk sample results, Amended Asbestos Register, Preliminary Safety & Health Plan and Specification, Specialist asbestos removal contractor Plan of Work, Notification to the Health and Safety Authority, Air monitoring results prior to removal works commencing, Air monitoring results during removal works, site clearance for reoccupation certificates, Completed Waste Transfer Form for the final disposal of all asbestos / hazardous waste.	1	item			
G	All asbestos works must be carried out in accordance with; The HSA 2010 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001, The Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 & 2010, The HSA Guidelines on Working with Materials Containing Asbestos Cement (and any subsequent amendments updates to HSA Guidelines and / or Codes of Practice)	1	item			
H	Contractor to include here (Unless included in rates elsewhere) for protection of all fixtures, fittings and finishes to all areas in which asbestos removal occurs	1	item			
	Alterations					
J	The Contractor must note that the safe and proper removal and disposal of all asbestos material is the Contractor's full responsibility and therefore the contractor's price/rates must include for all work in connection with same; no claims on the grounds of want of knowledge will be entertained whatsoever.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Removing Finishes; Asbestos Material					
A	Submit Plan of Work and 14 day prior notification to the Health & Safety Authority	1	item			
B	Setup Decontamination Unit & Form Enclosures	1	item			
C	Specialist removal and disposal of asbestos-containing valves in accordance with all relevant safety and environmental regulations.	1	item			
D	Environmental clean to achieve clearance certification	1	item			
E	Asbestos Removal & Disposal Certificates	1	item			
F	INAB Accredited Asbestos Clearance Certification					
G	Reassurance Air Monitoring and Re-occupation Clearance Certification by an Asbestos Consultant	1	item			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS					
	(51) HEATING CENTRE					
	System					
	Heating center installation, testing and commissioning; consisting of 2nr ASHP (Primary heating source) and 3nr LPG gas fired condensing boilers (secondary heating source) serving radiators throughout the building; the installation shall include a pressurisation unit, expansion vessel, pipework, shunt pumps and all associated valves; the existing header and on floor distribution pipework to be retained and reused; existing flow rates to be recorded prior to works and re-established at the end of the works; The heating system shall be flushed and provided with appropriate chemical treatment; Commissioning results including a flue gas analysis shall be provided for the boilers prior to handover, along with a statement by the manufacturer/supplier confirming their correct and efficient operation; all in strict accordance with the Mechanical Engineers Specification Part 1; Part 2; Part 3; Part 4 and Drawings M-5601					
	Accessories associated with Primary Equipment					
	Stop valves for isolation of LPHW pipework up to 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3					
H	22mm Stop valves	2	nr			
J	50mm Stop valves	7	nr			

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Stop valves for isolation of LPHW pipework over 65mm Dia; Type: ball valves, lever operated; Operating temp: up to 90øC; PN rating: PN16; Kitemark certified; Pipe material - To suit steel tube; Ball type, copper alloy to IS EN 13828; Lever operated; Between flanges to IS EN 1092-2; all in strict accordance with Engineers Specification Part 3					
A	80mm Stop valves	6	nr			
B	100mm Stop valves	12	nr			
	Non-return valves; include for all accessories and fittings; all in strict accordance with Engineers Specification Part 3					
C	22mm Non-return valves	3	nr			
D	50mm Non-return valves	1	nr			
E	80mm Non-return valves	1	nr			
F	100mm Non-return valves	9	nr			
	Lock Shield Valve; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
G	22mm Lock shield valve	2	nr			
	Strainer valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3					
H	50mm Strainer Valves	1	nr			
J	100mm Strainer Valves	4	nr			
	Auto Air Vents; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
K	22mm AAV Valve	1	nr			
	Temperature Sensors; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
L	Temperature sensor	14	nr			
	Temperature Guage; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Section Part 3					
M	50mm Temperature guage	3	nr			
N	80mm Temperature guage	3	nr			
				To Collection €		

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	(5-) MECHANICAL INSTALLATION (Cont)					
	Pressure gauge; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
A	55mm Pressure gauge	2	nr			
B	65mm Pressure gauge	2	nr			
C	100mm Pressure gauge	8	nr			
	Commissioning Sets; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
D	100mm Commissioning Set	5	nr			
	Flexible connections; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
E	50mm Flexible connections	3	nr			
F	100mm Flexible connections	12	nr			
	Drain Cock Valve; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
G	100mm Drain Cock Valve	2	nr			
	Gas Fired Boiler; The Contractor shall supply, install test and commission a fully packaged cascading wall mounted modulating LPG gas fired boiler plant in each schools Heating Plant room as an assist to the electric Air Source Heat Pump primary plant; Description: Wall hung modulating boilers; Fuel: LPG; LPHW Flow & Return Operating Temps: 50/30oC; Output Duty: 21.6 - 103.9 kW; Gas Consumption: 10.8 m3/hr; Dimensions (W x H x D): 850 x 520 x 500mm; Water content: 73kg; Accessories: Integral class #A# modulating pump T 20, Weather compensated controller c/w north facing temp stat, LPG Conversion Kit, 3 bar safety valve, Connection module and VFC required for connection to the BEMS for Enable/Fault; all in strict accordance with the Mechanical Engineers Equipment Schedule					
H	Gas Fired Boiler; Ref: BLR01	1	nr			
J	Gas Fired Boiler; Ref: BLR02	1	nr			
K	Gas Fired Boiler; Ref: BLR03	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Air Separator; supply and installation; complete; Description: Deaerator, Application: LPHW Heating System; Connection Size: DN 100; Construction: Mild steel, welded; Mounting: Inline; Finish: Powder coated; Max. flow velocity: 1.5 m/s; Pressure drop at Max. Flow: 4.2 kPa; Auto Air Vent: Integral; Stainer Screen: Stainless Steel; Magnets: Neodymium Magnets; Typical Height: 1500 mm; Typical Length: 650 mm; Compliance: Declaration of Performance / CE Certification / Confirmation of CPR Exemption PED 2014/68/EU; all in strict accordance with the Mechanical Engineers Equipment Schedule					
A	Air Separator; Ref: ASP-01	1	nr			
	Dirt Separator; supply and installation; complete; The Contractor shall supply and install air/dirt separators on the primary flow & return heating pipework from the ASHP; Description: Deaerator, Application: LPHW Heating System; Connection Size: DN 100; Construction: Mild steel, welded; Mounting: Inline; Finish: Powder coated; Max. flow velocity: 1.5 m/s; Pressure drop at Max. Flow: 4.2 kPa; Auto Air Vent: Integral; Stainer Screen: Stainless Steel; Magnets: Neodymium Magnets; Typical Height: 1500 mm; Typical Length: 650 mm; Compliance: Declaration of Performance / CE Certification / Confirmation of CPR Exemption PED 2014/68/EU; all in strict accordance with the Mechanical Engineers Equipment Schedule					
B	Dirt Separator; Ref: MSD-01	1	nr			
	Circulation Pump; supply and installation; complete; Description: Twin head, canned-rotor type c/w integral variable speed control & BMS connectivity; Power: 230C/1ph/50Hz; Pump Housing Material: Cast Iron; Impeller Material: Cast Iron; Maximum Operating Pressure: 10 bar; Enclosure Class: X4D; Insulation Class: F; Energy (EEI): 0.17; Compliance: Declaration of Performance / CE Certification; See Part 3: Standard Clauses; for appropriate standards; ERP Directive (2009/125/EC); EU Regulation (813/2013); Energy Labelling Framework; Regulation (EU) (2017/1369); EU Regulation (811/2013); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.5					
C	Pump LPHW, Ref: PMP01; Flow rate: 3.2 kg/s; Head: 120kPa	1	nr			
D	Pump LPHW, Ref: PMP02; Flow rate: 3.2 kg/s; Head: 120kPa	1	nr			
E	Pump LPHW, Ref: PMP03; Flow rate: 3.2 kg/s; Head: 120kPa	1	nr			
F	Pump LPHW, Ref: PMP04; Flow rate: 3.2 kg/s; Head: 120kPa	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Pressurisation Unit; supply and installation; complete; Description: Floor Standing LPHW Pressurisation Unit, Pumps: Twin.; Breaktank Connection: #AB# air gap to water supply; Max Working Pressure: 10 Bar; Connectivity: Volt Free Contacts required for High/Low level fault output to BMS; Digital Display: Required c/w password protection; Independent High / Low Pressure Alarm: Hard-wired; Auto Fill Capacity: Required; Standards/ Conformity: ISO 9001, BSEN 60204 Part 1, WRAS approved, IMQ & VDE Standards, PED, EMC Directives; Expansion Vessel: See drawings; Max. Working Pressure of Expansion Vessels: 10 bar; Pressurisation unit to supply common fault signal to BMS, Pressurisation unit c/ w high & low pressure trip, Quick fill loop to be included as part of installation; all in strict accordance with the Mechanical Engineers Equipment Schedule 1.8					
A	Pressurisation Unit; Ref: PRU001; Location: Plant room	1	nr			
	Buffer Vessel; supply and installation complete; Description: Direct Heating Vertical Buffer Vessel; Storage Capacity: 1600 litres; Material: Mild Steel Construction with exterior paint; Max. Temperature: 99øC; Max. Working Pressure: 3 bar; Size: 2000mm (H) x 1250mm (dia); Max.; Connections: See schematic; Insulation: 550mm soft polyester fibre insulation with high Thermal insulation to ErP class B or C, Fire Class: B-s2do to EN 13501; Warranty: 5 years; Accessories: Access hatch, Temperature Gauge, Pressure Gauge, Temp/Pressure, Safety Valve & tundish, Immersion Pockets 200mm deep min; Compliance: Declaration of Performance / CE Certification PED 2014/68/EU; all in strict accordance with the Mechanical Specification Part 4, Section 1.4					
B	Buffer vessel; Ref: BUF001	1	nr			
	Chemical dosing pot; supply and installation; complete; Capacity: 11 litres; Construction: Mild steel, welded; Mounting: Wall mounted c/w wall mounting brackets; Finish: powder coated; Minimum Output: 1 kW; Connection Details: Tundish, 1# fill valved connection, 1# drain valved connection, 1# flow valved connection, 12 return valved connection, Air vent Connection Sizes 1#; Typical Height: 880 mm; Typical Diameter: 200 mm; Weight: 16.5; c/w foot valve; chemical drum; Cleansing; Corrosion inhibitor and wall mounting brackets; include for all accessories and fittings; all in strict accordance with the Mechanical Equipment Schedule 1.7					
C	Chemical dosing pot	1	nr			
	Expansion Vessel; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
D	Expansion Vessel	1	nr			
	Hydraulic Low Loss Header; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3 & 4					
E	Hydraulic Low Loss Header	1	nr			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Boiler Flues; Flues shall be installed from each boiler as a pre-fabricated horizontal discharge balanced flue system; Description: Horizontal Balanced Flue Kit; Construction Inner: 304 grade s/steel (EN 1.4301); Construction Outer: Powder Coated Steel; Insulation Thickness: 50mm; Fire Rating: 2 hours (BS 476: Part 20); Minimum Clearance to Combustible Material: 50mm; Terminal Type: Suitable for Horizontal discharge; Support Brackets Int. Use: Powder-coated, 304 grade stainless steel; Roof terminal kit: Required; all in strict accordance with the Mechanical Engineers Specification Part 3					
A	Boiler flue; Size 100/160mm diameter	3	nr			
B	Boiler flue; Size 160mm diameter	1	nr			
C	Boiler header flue; Size 160mm diameter	1	nr			
	Description Heat meter; Media LPHW; Visible Display Digital; Pulse Output Requirements; Switch type - reed; Contacts - VFC; Pulse value # 1 kw/h per pulse; Load current - 500mA; Max switch voltage - 180 Vdc; Contact rating # 10W; Flying lead - 2m; Requirements - Class 2 Ultrasonic flow sensor - Calculator with integral hardware and software for measuring flow rate, temperature and energy consumption - Temperature sensors - Pulsed Input interface card for water sub-metering- Remote reading via M-Bus or similar interface - Power save mode - 24 month memory - Extensive diagnostic displays; Connection Type As per Part 3: Standard Clauses; Inline Strainer Required; Installation Positions Horizontal & vertical; Max Pressure 16 Bar; Media Temperature 1 oC # 90/130oC; Operating Temperature 1 oC # 90/130oC; Compliance Declaration of Performance/CE Certification, IS EN 14154, MID (Measuring Instrument Directive) 2004/22/, EC, CEN EN 1434 (2007) and OIML R5 (2002); all in strict accordance with the Mechanical drawing and Specifications documents Volume 3 - Equipment Schedules 2.4					
D	Heat Meter	2	nr			
	<u>Distribution</u>					
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3					
E	22mm diameter pipework	1	item			
F	50mm diameter pipework	1	item			
G	80mm diameter pipework	1	item			
H	100mm diameter pipework	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Heating Distribution pipework up to and including 80mm shall be Copper to IS EN 1057; include for all fixings All fittings employed on copper pipework systems shall be of the nondezincifiable quality. Soldered joints shall be in accordance with HVCA TR7 #Guidance on Soft Soldering for Pipe Jointing Copper# using lead free solder. On sizes 54 mm and below joints shall be made with capillary fittings to IS EN 1254 using lead free solder. On condense, boiler feed and boiler blow down systems an approved silver brazing alloy to IS EN 1044 shall be used. At dismantling points, unions, or flanged joints as appropriate shall be used. For connections to all appliances and on drainage pipework, joints shall be made with compression fittings to EN 1254 Part 2 or 2051 Part 1 as appropriate; all in strict accordance with the Mechanical Engineers Specification Part 4					
A	22mm diameter pipework	1	item			
B	50mm diameter pipework	1	item			
C	80mm diameter pipework	1	item			
D	100mm diameter pipework	1	item			
	Insulation					
	Phenolic preformed section insulation; to LTHW services pipes; Thermal conductivity shall not exceed 0.042 Wm2K at 100oC; All insulation shall be fitted in accordance with the manufacturer#s instructions. All heating and plumbing pipework, valves and ancillary equipment within the plant room and external plant compound shall be insulated and aluminum hammer clad to provide mechanical protection; All insulation shall be Class A1, CFC and HCFC free with ozone depletion factor of zero; include for all accessories; all in accordance with the Mechanical Engineers Specification Part 4					
	Insulation, 15mm thick					
E	to 20mm diameter pipework	1	item			
	Insulation, 40mm thick					
F	to 50mm diameter pipework	1	item			
G	to 80mm diameter pipework	1	item			
H	to 100mm diameter pipework	1	item			
	Insulated cover boxes; aluminium split casing c/w spring clip fasteners, 35mm thick insulation lining; sized to suit valve; vapour sealed; all in accordance with Engineers Specification Part 4					
J	General valves	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
A	Testing and commissioning	1	item			
B	Testing,chemical dosing, sterilization and certification of all systems	1	item			
C	Completion of heat meter commissioning reports	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
E	Filter maintenance; allow for 3 visits to site after completion for filter cleaning	1	item			
	Working drawings; all in accordance with Engineers Specification					
F	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
G	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
H	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
J	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(52) DRAINAGE AND REFUSE DISPOSAL					
	System					
	Soils and Waste Drainage Installation, testing and commissioning; complete; The complete installation of all above ground foul water drainage and refuse disposals; The Mechanical Contractor shall also be responsible for removal from storage and carriage to the position, erection of each item and all connections to and from the sanitaryware as detailed on the drawings and within this specification; all in strict accordance with the Mechanical Engineers Specification					
	Distribution System					
	Condensate pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work; all in strict accordance with the Mechanical Specification					
A	28mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
B	32mm nominal diameter; supports at average 1200mm centres vertical, 500mm centres horizontal; ears fixed with screws to background requiring plugging	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

(5-) MECHANICAL INSTALLATION (Cont)

(53) WATER SERVICES - HOT AND COLD WATER

System

Cold Water Distribution installation, testing and commissioning; The water services installation shall consist of mains water pipework extending to the cold-water storage tank and to the mains-water service outlets within the building. The pipework extends from the tank to a variable speed booster within the plant room. The pipework is distributed to serve cold water outlets, hot water cylinder, hot water outlets and appliances. All appliances and water outlets will be locally isolated to facilitate future maintenance; all in strict accordance with the Mechanical Engineers Specification

Hot Water Distribution installation, testing and commissioning; A new domestic hot water recirculation system shall be installed with a domestic hot water return pump fitted on the inlet to DHW Pre-Heat Cylinder; The main domestic hot water flow and return pipework shall generally be distributed within corridor ceiling voids with branch pipework extended to each space requiring a hot water supply and shall drop locally at each item of sanitaryware and rise back up to the ceiling void before dropping to the next sanitaryware fitting; Domestic hot water must be circulated throughout each schools hot water system at a minimum temperature of 55oC in order to protect against legionella; all in strict accordance with the Mechanical Engineers Specification

Equipment

Gas Fired Hot Water Heater; Min storage capacity: 230 litres; Recovery rate l/hr @ 50oC: 600l/hr; Flue dia (mm): 150/200; The hot water generator shall be a fully modulating LPG fired unit; The hot water heater shall be supplied with a room sealed horizonal flue kit; complete; all in strict accordance with the Mechanical drawing and Specifications

A	Gas Fired Water Heater; Ref: HW01; Location: Boiler room	1	nr		

Accessories associated with Primary Equipment

Isolation valves; Isolating valves shall be provided as indicated on the drawings; all in accordance with the Mechanical Engineers Specification Part 3

B	50mm Isolation Valves	3	nr		

3 port valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3

C	50mm 3 Port Valves	1	nr		

Double Check Valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3

D	50mm Double Check Valves	3	nr		

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Auto Air Vents; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
A	50mm AAV Valve	1	nr			
	Angle Pressure Relief Safety Valve; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
B	50mm Angle pressure Relief Safety Valve	1	nr			
	Commissioning Sets; include for all accessories and fittings; complete; all in accordance with the Engineers Specification					
C	50mm Commissioning Set	1	nr			
	Temperature Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3					
D	50mm Temperature Gauge	2	nr			
	HWR Return Pump; supply and installation; complete; Type Single-head, canned-rotor type c/w constant speed & 3 no. variable settings; Minimum Energy Class A; Design Flow-rate 0.2 litres / sec; Design Pressure 125 kPa; Pump Housing Material Stainless steel; Impeller Material PES 30%GF; Maximum Operating Pressure 10 bar; Maximum Operating; Temperature: 110øC; Maximum Ambient; Temperature: 40øC; Power Input 333 W; Maximum Current Consumption 1.55 A; Power Supply 50/60Hz; Rated Voltage 230 V; Enclosure Class X4D; Insulation Class F; Minimum Efficiency Index EEI: 0.18 Compliance: Declaration of Performance / CE Certification EN 12756 EN 1092-2); all in strict accordance with the Mechanical Engineers Equipment Schedule 1.12					
E	Pump HWR, Ref: PMP06; Flow rate: 3.2 kg/s; Head: 120kPa	1	nr			
	<u>Distribution</u>					
	Copper Pipes and Fitting; supply and installation complete; Application: Domestic hot and cold water pipelines; Material: Copper; Finish: uncoated; include for all fixing brackets, hangers and supports; include for all elbows, expansion bellows, unions and tees necessary to complete works;Hot and cold-water pipework shall be installed in copper tube to IS EN 1057. The Contractor shall use only CE marked tube and potable range fittings. Solders containing lead must not be used on the Site. Main branch stop valves shall be installed generally as shown on the drawings and in safely accessible locations. Ballofix valves shall be fitted to pipework at all sanitary appliances. Hot water taps shall be positioned on the left-hand side of all sanitary ware; all in accordance with the Mechanical Engineers Specification					
F	50mm diameter pipework	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Non-matallic pipework and fittings; in accordance with the Irish Standard IS EN 806:2005: Specification for installations inside buildings conveying water for human consumption; include for all fixing brackets, hangers and supports; include for all elbows, unions and tees necessary to complete works; all in accordance with the Mechanical Engineers Specification					
A	50mm diameter pipework	1	item			
	Insulation					
	Thermal insulation; to all HWS/HWR services pipes; thermal conductivity not exceeding 0.035 W/mK; All pipework and valves within each Heating Plant room, in casings, ceiling voids or attic spaces shall be fully insulated with rigid mineral wool with foil covering as detailed in Part 3: Standard Specification and shall be fitted in accordance with the manufacturer#s instructions; All insulation shall be Class A1, CFC and HCFC free with ozone depletion factor of zero; include for all accessories; all in accordance with the Mechanical Engineers Specification					
	Insulation, 40mm thick					
B	to 50mm diameter pipework	1	item			
	Insulated cover boxes; aluminium split casing c/w spring clip fasteners, 35mm thick insulation lining; sized to suit valve; vapour sealed; all in accordance with Engineers Specification					
C	General valves	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
E	Testing,chemical dosing, sterilization and certification of all systems	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like	1	item			
	(54) GAS DISTRIBUTION - LPG GAS SERVICES					
	System					
	LPG Gas distribution; installation testing and commissioning; The school building will be fed from a new incoming LPG gas supply; The contractor shall allow for liaising with the gas supplier regarding coordination of works and certification of the site gas pipework and tank installation; LPG installation shall be installed in compliance with IS3213; all in strict accordance with the Mechanical Specification Part 1, Part 2, Part 3 and Part 4					
	Accessories associated with Primary Equipment					
	Isolation Valves; isolation of gas services pipework; include for all accessories; all in strict accordance with the Mechanical Specification Part 3					
C	40mm Stop valves	2	nr			
	Gas Meter; Low pressure drop turbine gas meter; Gas meter to have volt free contacts for connection to the BMS; include for all accessories and fittings; complete; all in strict accordance with the Mechanical Specification Part 3					
D	Gas Meter	2	nr			
	Distribution System					
	Galvanised Medium Grade Mild steel pipework and fittings; include for all fixings and supports, elbows,expansion bellows; unions and tees necessary to complete works; Painted with two coats of yellow ochre paint; pipework run in ceiling voids; all in strict accordance with the Mechanical Specification Part 3					
E	40mm diameter pipework	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Operating and maintenance manuals; all in accordance with Engineers Specification					
A	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
B	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
C	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
D	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
E	Identification plates, labels and the like	1	item			
	(54) GAS DETECTION SYSTEM					
	<u>System</u>					
	Gas detection system installation testing and commissioning; A gas detection system will be installed in the heating center comprising of gas detectors, heat detectors, slam shut valve, gas detection panel and emergency lock-stop located adjacent to the boiler room door; The gas detection panel shall be provided with volt free contacts and an I/O interface unit for connection to the schools fire alarm system; all in strict accordance with the Mechanical Specification Part 1, Part 2, Part 3 and Part 4					
	<u>Primary Equipment</u>					
	Gas detection control panel; c/w emergency knock-off button, reset button, mute button, LED indication for power on, gas-on and emergency stop; free relay output for the BMS; IP44; CE rated, IEC61779-1; wall mounted; include for all accessories and fittings; all in accordance with the Mechanical Specification - Equipment schedules					
F	Gas detection control panel; Location: Boiler room	1	nr			
	<u>Accessories associated with Primary Equipment</u>					
	Emergency Push Button; supply and installation; complete; all in strict accordance with Engineers Specification					
G	Emergency Push Button	1	nr			

To Collection €

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Gas Detectors; supply and installation; complete; IP44 protection; Mounting: mounted over each burner, linked to the gas control panel; c/w gas conical collector hood; all in strict accordance with Engineers Specification					
A	Gas detector	3	nr			
	Heat Detectors; supply and installation; complete; all in strict accordance with Engineers Specification					
B	Heat Detectors	3	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(58) FIRE PROTECTION INSTALLATION					
	System					
	Fire Fighting installation, testing and commissioning; complete; Hand held fire extinguishers and fire blankets shall be provided throughout the building as detailed on the drawings; The installation will comply with BS 5306-2000-Part 8; The Contractor shall be responsible for carrying out the commissioning of the portable fire extinguishers before they are installed; all in strict accordance with the Mechanical Specification					
	Terminal equipment and Fittings					
	Fire Extinguishers supply and installation; complete with 5 years guarantee, CE approved and marked; all in accordance with the Mechanical Specification					
A	5KG CO2 Gas Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
B	5kg ABC Dry Powder Fire Extinguishers; c/w wall mounting brackets and ID signage; complete	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	(58) BUILDING ENERGY MANAGEMENT SYSTEM					
	System					
	BEMS System Installation; testing and commissioning; complete; The BEMS systems shall be an open protocol computer based systems that monitors and initiates stop and start sequences for all the mechanical plant and equipment. The systems shall permit the end user to login to the system accessing plant time scheduling and operational status, together with temperature values and data logging. All alarms shall be available for review on each School#s front end and all temperatures shall be logged and extracted graphically for review. All logging data shall be stored in a SQL database for external use. The electrical meters supplied by the electrical contractor under the LV switchgear shall be connected to the BEMS electrical meter system supplied under the electrical contract and all information shall be integrated within the same software package; all in accordance with the Mechanical Engineers Specification section 10(58) and Mechanical Engineer Drawings ME5801					
A	Generally	1	item			
	Primary Equipment					
	Control Panel; supply and installation; complete; A new wall-mounted Mechanical Control Panel complete with a BEMS outstation and GSM module shall be provided in the new Heating Plant room of each main school and in its associated Multi-Purpose Hall Heating Plant room; Each control panel shall be provided with a touchscreen interface for access to setpoints, sensor readings and alarms; The MCC control panels shall be complete with Hand/Off/Auto selector switching for all items of plant with full functionality and indicator lamps, red for fault, green for healthy. Each BEMS control system shall relay all information back to the central monitoring system / front end and the electrical metering system; all in strict accordance with the Mechanical Engineers Equipment Schedule no. 6.1, Mechanical specification section no. 10.3 and Mechanical drawings ME5801					
B	Control Panel	1	nr			
	Front End PC c/w Software Licence; supply and installation; complete; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification and drawing ME5801					
C	Front End PC c/w Software Licence	1	nr			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
E	Operating and maintenance manuals	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Working drawings; all in accordance with Engineers Specification					
A	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
B	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
C	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
D	Identification plates, labels and the like	1	item			
	MECHANICAL INSTALLATIONS					
	Sundries & Builders Work					
	General Attendances					
E	Provide all general attendances in accordance with Arm 4 .	1	item			
F	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
G	Provide use of the Main Contractors scaffolding.	1	item			
H	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
J	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
K	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
L	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Mechanical services works, including testing and commissioning , and pay all ongoing operation charges.	1	item			
M	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
N	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
P	Provide temporary telephone services to the Mechanical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Include for unloading, hoisting/cranage and placing into position all items of heavy plant and site offices supplied by the sub-contractors.	1	item			
B	Allow for maintaining all ducts, chases, trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
C	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
D	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
E	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
F	Provide all special attendances in accordance with Arm 4 Clause 3.1	1	item			
G	Provide temporary roads and hardstandings in connection with heavy items of plant and the like.	1	item			
H	Provide accommodation for the sub-contractor's staff for eating, site lavatories, site washing facilities, and cloaks.	1	item			
J	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
K	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
L	Provide temporary distribution systems for lighting, power, water for the execution of the electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
M	Provide the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
N	Protection of the works the Main Contractor is responsible for providing adequate protection at all times for the Mechanical services installation.	1	item			
P	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day.	1	item			
Q	Provide external access to high level on building facade to permit the installation of any external equipment/fittings and for the removal of existing services as required.	1	item			
R	Provide Mobile Elevated Working Platforms (MEWP) or scaffolding for Mechanical sub-contractors working at high level.	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
A	Provide for weathering & sleeving around all penetrations through the external structure of the building and to allow for sealing to fabric to maintain air tightness.	1	item			
B	Allow for maintaining all ducts, chases, trenches, trunking etc, clean and free of all water, debris and rodents at all times.	1	item			
C	Allow for making good and fire sealing of all builders work opes with proprietary sealant to architects details, where services penetrate fire zones.	1	item			
D	Allow for coordination with local authorities and utility providers in respect of application for connections, providing excavation of roads and full coordination with various utility companies.	1	item			
E	Coordinate with Mechanical Contractor to facilitate fitting of all sanitary ware.	1	item			
F	Allow for patrices behind ceiling tiles and ceilings for the support of light fittings, grilles, smoke detectors, sensors etc.	1	item			
G	Allow for weathering details on all services passing through external envelope.	1	item			
H	Allow for all service / utility entries into building.	1	item			
J	Allow for clearing away and disposal of any rubbish.	1	item			
K	Provide safe access to roofspace to facilitate Mechanical installation work.	1	item			
L	Making good of opes for fire smoke dampers.	1	item			
M	Provide and maintain the specific temperatures and humidity levels.	1	item			
N	Contractor to provide for the construction of a walkway within the Attic space for service and maintenance of water and ventilation services.	1	item			
P	Contractor to ensure all existing services shut downs for connecting in new and changeovers shall be carried out between 10pm on a Sunday Night and 6pm on a Monday morning, to avoid any interruptions of the running of the existing school; times to be agreed with school management.	1	item			
Q	Provide plywood protective cover over boiler for protection.	1	item			
	Unload, hoist distribute, and place in position the following items of plant and equipment:					
R	Gas boiler	1	item			
S	Heat pumps	1	item			
T	Pumps	1	item			
				To Collection €		

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Sundries & Builders Work					
	General					
A	Marking positions of holes, mortices and chases	1	item			
B	Testing & Commissioning	1	item			
C	Preparing drawings of "as completed" installations	1	item			
D	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
E	Keys, tools and spares	1	item			
	In-situ concrete; plain; to IS EN 206; Grade C30; formwork to sides of platform, powerfloating finish; all in strict accordance with the Engineers Drawings and Specification					
	Bases					
F	Size 850mm x 1650mm x 100mm thick	1	nr			
G	Size 1850mm x 1100mm x 100mm thick	1	nr			
H	Size 2650mm x 1850mm x 100mm thick	1	nr			
	Equipment supports; provide mounting grounds for the installation of the following fittings; making good structure and finishes; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
	Equipment supports					
J	Provide wall fixings for portable fire extinguishers to walls at 1500mm above floor	2	nr			
	Forming or cutting holes; including sleeves/plates, making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
K	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			
L	cutting or forming opes is deemed to include the making good and sealing of the ope around the pipe or duct		note			
	For ducts/pipes through exisitng external cavity blockwork wall, include for building in sleeves; weather proofing, making good all finishes on completion					
M	Size 1000mm x 250mm opes	1	nr			

					€	c
	(5-) MECHANICAL INSTALLATION (Cont)					
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification and Drawings					
	Special works were services pass through structures; external walls, making good all finishes on completion					
A	Size 1000mm x 250mm opes	1	nr			
				To Collection €		

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.7/7					
Page No. Lot 8.7/8					
Page No. Lot 8.7/9					
Page No. Lot 8.7/10					
Page No. Lot 8.7/11					
Page No. Lot 8.7/12					
Page No. Lot 8.7/13					
Page No. Lot 8.7/14					
Page No. Lot 8.7/15					
Page No. Lot 8.7/16					
Page No. Lot 8.7/17					
Page No. Lot 8.7/18					
Page No. Lot 8.7/19					
Page No. Lot 8.7/20					
Page No. Lot 8.7/21					
Page No. Lot 8.7/22					
Page No. Lot 8.7/23					
Page No. Lot 8.7/24					
Page No. Lot 8.7/25					
Page No. Lot 8.7/26					
Page No. Lot 8.7/27					
Page No. Lot 8.7/28					
Page No. Lot 8.7/29					

				€	c
(5-) MECHANICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.7/30					
Page No. Lot 8.7/31					
(5-) MECHANICAL INSTALLATION **Carried to Summary**					

					€	c
	(6-) ELECTRICAL INSTALLATION					
	(10) DEMOLITION & ALTERATIONS					
	ALTERATIONS					
	Note:					
A	1. THE ONUS IS ON THE CONTRACTOR TO VISIT THE SITE OF THE WORKS AND TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF THE WORKS AND ALL OTHER MATTERS THAT MIGHT INFLUENCE HIS PRICE OR TIME FOR COMPLETION OF THE WORKS (ARRANGEMENTS TO VISIT THE SITE SHOULD BE MADE WITH THE EMPLOYERS REPRESENTATIVE). THE CONTRACTOR MUST INCLUDE WITHIN HIS PRICE FOR ALL WORKS IN CONNECTION WITH THE DEMOLITION WORKS AND WORKS TO THE EXISTING BUILDINGS, WHICH COULD BE REASONABLY FORESEEN OR IMPLIED BY THE TENDER DOCUMENTS. NO CLAIMS ON THE GROUNDS OF WANT OF KNOWLEDGE IN RESPECT OF THE ABOVE WILL BE ENTERTAINED WHATSOEVER.		note			
	Removing					
	Plumbing and Engineering Installations					
B	Existing ESB Meter; safe isolation, disconnection, decommissioning and removal of the existing ESB meter installation associated with the school#s main switchboard; Trace and identify the incoming ESB supply cable from the intake point to the main switchboard; Works shall include full coordination with ESB Networks and compliance with all statutory requirements; making good all disturbed finishes; all in strict accordance with Electrical Specification and Drawing E-6000	1	item			
C	Alterations to existing switch board MDB-1 to facilitate the installation of new 250A TP&N sub-mains connection (sub-main cable & TP&N device measured elsewhere); allow for safe isolation and disconnection of existing sub-mains and disposal off site; modify existing DB as required to accommodate the new connection; Include all isolation, shutdown coordination, and commissioning; all in strict accordance with Electrical Specification and Drawing E-6000	1	item			
	Notes					
D	The tendering Contractors are referred to ARM 4 Supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
E	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
F	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings, will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES					
	(61) ELECTRICITY SUPPLY & MAIN DISTRIBUTION - LV INSTALLATIONS					
	System					
	LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	LV Installations	1	item			
	Equipment					
	Main Switch Distribution Board; supply and installation; complete; Enclosure Type: Form 4B Type 2; Material Body: Electro galvanised iron-phospated steel plate; Frame: 2.5mm thick steelwork, Doors/covers: 2mm steelwork, Finish: epoxy self etching filler primer undercoat, 2nr stove enameled synthetic paint finishing coats; Colour: Light grey, RAL 7035, powder lacquered; Cable Entry: bottom; Cable Exit: Top; IP Rating: IP54; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; HOA switches, Integral isolating switches, CTU's, open/closed contractors; remote key switches, phase indicator lamps, time clocks, metering, surge protection, space for future power factor correction equipment and automatic changeover; earth terminal; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in accordance with the Electrical Project Particular Specifications and Drawing E-6000					
B	Distribution board; Ref: MSB-2; Location: Switch room	1	nr			
	Fittings					
C	Isolation device; supply and installation; complete; terminating of incoming and outcoming cabling; all in accordance with the Electrical Specifications					
D	Isolation device; 63A TPN	1	nr			
E	Isolation device; 160A TPN	1	nr			
F	Isolation device; 250A TPN	1	nr			

To Collection €

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	(6-) ELECTRICAL INSTALLATION (Cont)					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	3	nr			
	Rubber Mat; supply and installation; complete; The contractor shall supply and install a suitable slim rubber mat for each LV switchboard complying with BS 91 - 1976 adjacent each switchboard. The mat shall be 1 metre wide and shall run the complete length of the main switchboard and shall be fixed securely to avoid potential trip hazards; all in accordance with the Electrical Specifications					
B	Insulated matting; Ref: MDB-1, Existing	1	nr			
C	Insulated matting; Ref: MDB-2	1	nr			
	Main switchboard circuit chart; 'A1' framed drawing of the switchboard to be installed within the switch room; the drawing shall be framed with a perspex cover; include for all accessories; in strict accordance with the Electrical Specification					
D	Main switchboard; Ref: MDB-1	1	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
E	Circuit charts to switch boards; Ref: MDB-2	1	nr			
	Health Safety & Shocks Chart; the contractor shall provide an 'Electrical Review' First Aid Chart, 508 mm x 381 mm, wall chart of Instructions for Dealing with Electric Shock, located alongside each LV switchboard, These shall be printed in red and black, sheathed in plastic; all in accordance with the Electrical Specifications					
F	Health Safety & Shocks Chart	1	nr			
	<u>Mains and Sub-mains cables</u>					
	Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
G	Submains Ref: 6; REN-01 to MSB-2; 4 x 50sq.mm XLPE/SWA/LSF + 25sq.mm CPC	1	item			
H	Submains Ref: 8; REN-01 to MSB-1; 4 x 95sq.mm XLPE/SWA/LSF + 50sq.mm CPC	1	item			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 4; MSB-01 to BMS Panel; 4 x 25sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
B	Submains Ref: 5; MSB-02 to ASHP01; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
C	Submains Ref: 5; MSB-02 to ASHP02; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Specification					
D	General earthing and bonding	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

(6-) ELECTRICAL INSTALLATION (Cont)

(62) POWER - CONTAINMENT

System

Cable ladder/ tray/ trunking installation, testing and commissioning; complete; The Contractor must allow for the supply and installation of a complete cable support system using cable tray, trunking, conduit and support steelwork as shown on the drawings and as detailed in the specification. The Contractor shall include for all incidental cable containment which may not be shown on the drawings but which may be required to effect cable routes to individual items of equipment, luminaires etc; include for all joints, fixing brackets and supports; all exposed and extraneous conductive parts are to be boned and properly earthed in accordance with current wiring regulations; all in accordance with the Electrical Engineers Specification and Drawings E-6001

A	Cable Tray; Submains; heavy duty galvanised steel; size 200mm wide x 60mm high; complete	1	item		
B	Cable Basket; CAT 6A cable; heavy duty galvanised steel; size 300mm x 65mm wide; complete	1	item		
C	Conduit; galvanised steel; size 25mm diameter; complete	1	item		
D	Conduit; galvanised steel; size 50mm diameter; complete	1	item		
E	Conduit; flexible steel; size 25mm diameter; complete	1	item		

General Earthing and Bonding

General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification

F	General earthing and bonding	1	item		

General

Testing and commissioning; all in accordance with Engineers Specification

G	Testing and commissioning; complete	1	item		

Operating and maintenance manuals; all in accordance with Engineers Specification

H	Operating and maintenance manuals; complete	1	item		

Working drawings; all in accordance with Engineers Specification

J	Working drawings; complete	1	item		

Co-ordination drawings; all in accordance with Engineers Specification

K	Co-ordination drawings; complete	1	item		

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	As built drawings; all in accordance with Engineers Specification					
A	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
B	Identification plates, labels and the like; complete	1	item			
	(62) POWER - GENERAL SERVICES					
	System					
	General Services and small power installation, testing and commissioning; complete; to include vampire load design strategy; all in accordance with the Electrical Specification and Drawings ME-5801					
C	General Services Installation	1	item			
	Accessories associated with terminal equipment					
	Isolation device; supply and installation (including wiring); complete; surface mounting; include for all accessories and fixings; c/w galvanised steel back boxes; include for all accessories and fixings; all in strict accordance with the Electrical Specification					
D	16amp SPN Isolator	11	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
F	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
H	Working drawings	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Co-ordination drawings; all in accordance with Engineers Specification					
A	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
B	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
C	Identification plates, labels and the like	1	item			
	(65) PROTECTIVE SERVICES - EARTHING AND BONDING					
	System					
	Earthing and Bonding; installation; testing and commissioning; The Electrical Contractor shall supply, install, test and commission a complete earthing and bonding system in accordance with the Electricity Supply Company requirements, current best practice, I.S. 10101, this Specification and Drawings. The Electrical Contractor shall form an equipotential zone in the building to provide protection against indirect contact, by bonding all extraneous and exposed conductive parts to the main earth terminal; all in accordance with the Electrical Engineers Specification and drawing E-6001					
D	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
E	Main Earth Terminal Bar	1	nr			
	Main earth conductor cable; supply and installation complete; 95mm2 LSF green/ yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
F	Earth terminal bar to earth pits	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Main earth conductor cable; supply and installation complete; Cable 95mm2 LSF green/yellow earth cable; Design parameters as defined within I.S 10101: 2020 regulations; all in strict accordance with the Electrical Engineers Specification					
A	From MSB-2 to earth terminal bar	1	item			
	Main equipotential earth bonding; Cable: 95mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
B	Incoming Water Main	1	item			
C	Incoming Gas Main	1	item			
D	Metal drainage pipes	1	item			
E	Structural Steelwork	1	item			
F	Main Heating Pipework	1	item			
G	Main Ventilation Ductwork	1	item			
H	Lightning Protection System	1	item			
J	Lift shaft steel work	1	item			
K	Eircom DP	1	item			
	Main equipotential earth bonding; Cable: 16mm2 LSF green/yellow cable; be provided from each of the following items, as a minimum, to the main earthing bar; all in accordance with the Electrical Engineers Specification					
L	Earth terminal bar to Comms cabinets	1	item			
	Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations; all in accordance with the Electrical Engineers Specification					
M	Metallic Wireways and Containment	1	item			
N	Suspended Ceiling Grids	1	item			
P	Wash Hand Basins	1	item			
Q	Showers	1	item			
R	Sinks	1	item			
S	WC's	1	item			
T	Cleaners Sinks	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Catering equipment	1	item			
B	Metal worktops	1	item			
C	Plant room Pipework	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
D	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
F	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
G	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
H	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
J	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
K	Identification plates, labels and the like	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	(65) SECURITY & PROTECTION - SURGE PROTECTION					
	System					
	Transient & Over voltage Protection installation, testing and commissioning; TSurge Protection Devices (SPDs) shall be installed in switchboards and distribution boards as described below to suppress over voltages and transients due to network disturbances and or lightning strikes. Class 1 & 2 SPDs shall be fitted to each main switchboard at supply the intake point. Class 2 SPDs shall be fitted downstream at each local distribution board. These units shall be rail mounted within a dedicated compartment of the switchboard or distribution board. SPDs shall comply with IEC/EN 61643 11:2012 guidelines; all in accordance with the Electrical Engineers Specification and Drawing E-6000					
A	Transitent & Overvoltage Protection	1	item			
	Fittings					
	Surge Suppression Devices; installation (including wiring); complete; all in strict accordance with the Electrical Engineers Specification					
B	Surge Protection Type 1; REN-1	1	item			
C	Surge Protection Type 1; MDB-2	1	item			
D	Surge Protection Type 3; MDB-1 submains	1	item			
E	Surge Protection Type 3; MDB-2 submains	1	item			
F	Surge Protection Type 3; ASHP01 submains	1	item			
G	Surge Protection Type 3; ASHP02 submains	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
H	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
J	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
K	Operating and maintenance manuals	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Working drawings; all in accordance with Engineers Specification					
A	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
B	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
C	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
D	Identification plates, labels and the like	1	item			
	(68) MECHANICAL WIRING INSTALLATIONS					
	Mechanical Wiring Installation; testing and commissioning; complete; Electrical Contractor must provide and issue as installed drawings for all electrical cabling associated with mechanical services. All wiring for mechanical services must be carried out under this contract to include wiring for heating, ventilation etc. The wiring to all mechanical devices must be taken from dedicated MCC (motor control center) panels supplies; all in accordance with the Mechanical and Electrical Specification and Drawing M-5101					
E	Mechanical Wiring Installation	1	item			
	Fittings					
	Gas detection system mechanical wiring provisions and final connections (ONLY); installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV control wiring cables to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Mechanical and Electrical Specification					
F	Gas detection control panel (Location: Boiler room)	1	nr			
G	40mm dia Gas solenoid valve	1	nr			
H	Emergency Stop Button	1	nr			
J	Gas detector	1	nr			
K	Heat detector	1	nr			

To Collection €

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Frost protection mechanical wiring provisions and final connections (ONLY); installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV control wiring cables to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Electrical Engineers Specifications					
A	Oil filled Electric radiator; Size 1000mm long x 500mm high; Output 1000w	1	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers					
B	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers Specification Documents					
C	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers Specification Documents					
D	Operating and maintenance manuals; complete	1	item			
	Working drawings; all in accordance with the Electrical Engineers Specification Documents					
E	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers Specification Documents					
F	Co- ordination drawings;complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers Specification Documents					
G	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers Specification Documents					
H	Identification plates, labels and the like; complete	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	(68) BMS WIRING INSTALLATIONS					
	System					
	BMS Wiring Installation; testing and commissioning; complete; Electrical Contractor must provide and issue as installed drawings for all electrical cabling associated with mechanical services. All wiring for mechanical services must be carried out under this contract to include wiring for heating, ventilation etc. The wiring to all mechanical devices must be taken from dedicated MCC (motor control center) panels supplied as a 'Free Issue' item by the Mechanical Contractor as part of the BMS installation, and must be installed and connected up by the electrical contractor. Generally, the MCC panels must be installed in boiler houses, plant rooms, etc.; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
A	BMS Wiring Installation	1	item			
	Equipment					
	Mechanical Control Panel; Mechanical and BMS wiring installation, testing and commissioning; complete; The Contractor shall allow for all wiring associated with the installation of the MCC and BMS outstations; The Contractor shall allow for all switchgear as indicated on the electrical services connection schedules and reflected on the electrical services layouts; all in accordance with the Mechanical Engineers Specification and Drawing ME-5801					
B	Mechanical Control Center; Ref: MCC Panel, Location: Boiler Room	1	item			
	Fittings					
	BMS final connections and wiring installation, testing and commissioning; complete; The Electrical Specialist shall include for the supply and installation of all LV/ELV / control wiring cables fed from the BMS panel (Location: exisitng school plant room) to mechanically operated items installed under this contract; cables shall be drawn in trunking/ cable trays; all in accordance with the Electrical Engineers Specifications and Drawing ME-5801					
C	Point 002; Fire Alarm Interface	1	nr			
D	Point 003; CAT 6A to local Comms cabinet	1	nr			
E	Point 004; MDB surge protection alarm signal	1	nr			
F	Point 005; Boiler supply (B1)	1	nr			
G	Point 006; Enable/ Fault	1	nr			
H	Point 007; Pressurissation unit supply (PU1)	1	nr			
J	Point 008; High/Low level Fault	1	nr			
K	Point 009; LPHW (P1) - Primary circuit	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 010; Enable/ Fault	1	nr			
B	Point 011; LPHW (P2) - Circuit 1	1	nr			
C	Point 012; Enable/ Fault	1	nr			
D	Point 013; LPHW (P3) - Circuit 2	1	nr			
E	Point 014; Enable/ Fault	1	nr			
F	Point 015; LPHW (P4) - Circuit 3	1	nr			
G	Point 016; Enable/ Fault	1	nr			
H	Point 017; LPHW (P5) - Circuit 4	1	nr			
J	Point 018; Enable/ Fault	1	nr			
K	Point 019; DHW return pump (P6)	1	nr			
L	Point 020; Enable/ Fault	1	nr			
M	Point 021; Heat meter supply - Boiler	1	nr			
N	Point 022; Heat meter pulsed signal	1	nr			
P	Point 023; Heat meter supply - Heat Pump	1	nr			
Q	Point 024; Heat meter pulsed signal	1	nr			
R	Point 025; Gas Detection Panel	1	nr			
S	Point 026; Valve Position /Ststus	1	nr			
T	Point 027; Outdoor Air Temp Sensor (north wall)	1	nr			
U	Point 028; ASHP primary flow immersion temp sensor	1	nr			
V	Point 029; ASHP primary return immersion temp sensor	1	nr			
W	Point 030; ASHP flow high limit stat	1	nr			
X	Point 031; Boiler primary flow immersion temp sensor	1	nr			
Y	Point 032; Boiler primary return immersion temp sensor	1	nr			
Z	Point 033; Boiler flow high limit stat	1	nr			
AA	Point 034; LPHW heating circuit flow temp sensor (P1)	1	nr			
BB	Point 035; LPHW heating circuit return temp sensor (P1)	1	nr			
CC	Point 036; LPHW heating circuit flow temp sensor (P2)	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Point 037; LPHW heating circuit return temp sensor (P2)	1	nr			
B	Point 038; LPHW heating circuit flow temp sensor (P3)	1	nr			
C	Point 039; LPHW heating circuit return temp sensor (P3)	1	nr			
D	Point 040; LPHW heating circuit flow temp sensor (P4)	1	nr			
E	Point 041; LPHW heating circuit return temp sensor (P4)	1	nr			
F	Point 042; LPHW buffer vessel temp sensor	1	nr			
G	Point 043; LPHW buffer outlet flow temp sensor	1	nr			
H	Point 044; LPHW buffer outlet return temp sensor	1	nr			
J	Point 045; DHWS flow temp sensor	1	nr			
K	Point 046; DHWS return temp sensor	1	nr			
L	Point 047; DHWS high limit stat	1	nr			
M	Point 048; Mains water incoming meter (pulsed signal)	1	nr			
N	Point 049; LPG gas meter boiler supply (pulsed signal)	1	nr			
P	Point 050; Run on timer - circuit 1	1	nr			
Q	Point 051; Run on timer - circuit 2	1	nr			
R	Point 052; Run on timer - circuit 3	1	nr			
S	Point 053; Run on timer - circuit 4	1	nr			
T	Point 054; Modbus interface to ASHP1	1	nr			
U	Point 055; Electrical switchboard meters (MODBUS)	1	nr			
V	Point 056; Future - power & control cable to temp stats	1	nr			
	Final Circuits (including all points terminations)					
	Final Circuits; installation, testing and commissioning; Complete; Final circuits shall be fed from local sub-distribution board; Installation: Sub-circuit wiring 4c 2.5mm2 LSZH & 2.5 CPC; shall be drawn in concealed galvanized steel conduit and/or galvanized steel trunking; all in accordance with the Electrical Engineers Specification and Control points schedule					
	Final Circuits - BMS Panel					
W	Power - Boiler (B1)	1	nr			
X	Power - Pressurisation Unit (PU1)	1	nr			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Power - LPHW (P1) - Primary circuit	1	nr			
B	Power - LPHW (P2) - Circuit 1	1	nr			
C	Power - LPHW (P3) - Circuit 2	1	nr			
D	Power - LPHW (P4) - Circuit 3	1	nr			
E	Power - LPHW (P5) - Circuit 4	1	nr			
F	Power - DHW pump (P6)	1	nr			
G	Power - Heat meter supply - Boiler	1	nr			
H	Power - Heat meter supply - Heat Pump	1	nr			
J	Power - Gas Detection	1	nr			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
K	General Earthing and Bonding; complete		item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers Specification Documents					
L	Testing and commissioning; complete		item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers Specification Documents					
M	Operating and maintenance manuals; complete		item			
	Working drawings; all in accordance with the Electrical Engineers Specification Documents					
N	Working drawings; complete		item			
	Co-ordination drawings; all in accordance with the Electrical Engineers Specification Documents					
P	Co-ordination drawings;complete		item			
	As built drawings; all in accordance with the Electrical Engineers Specification Documents					
Q	As built drawings; complete		item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
	Identification plates, labels and the like; all in accordance with the Electrical Engineers Specification Documents					
A	Identification plates, labels and the like; complete		item			
	ELECTRICAL INSTALLATIONS					
	Sundries and Builders Work					
	General Attendances					
B	Provide all general attendances in accordance with Arm 4.	1	item			
C	Provide use of the Main Contractors temporary roads and hardstandings.	1	item			
D	Provide use of the Main Contractors scaffolding.	1	item			
E	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
F	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
G	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
H	Provide temporary distribution systems for lighting, power, water and fuel for the execution of the Electrical services works, including testing and commissioning, and pay all ongoing operation charges.	1	item			
J	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
K	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
L	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
M	Include for unloading, hoisting/cranage and placing into position all items of heavy plant supplied by the subcontractors.	1	item			
N	Allow for maintaining all ducts, chases , trenches, trunking, etc., clean and free of all water, debris and rodents at all times.	1	item			
P	Allow for making good and fire sealing of all builders work opes with proprietary sealant to Architects details, where services penetrate fire zones.	1	item			
Q	Fire proofing (material) around ducts and pipework shall be the responsibility of the Main Contractor	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Timber grounds shall be provided within stud partitions to facilitate fixing of wall mounted accessories	1	item			
	Special Attendances					
B	Provide all special attendances in accordance with Arm 4 Work Section B Clause 3.1	1	item			
C	Provide temporary access roads and hardstanding in connection with heavy items of plant and the like, forming part of the site establishment works	1	item			
D	Provide scaffolding internal and external to the building to facilitate installation of high-level electrical services during the contract	1	item			
E	Provide use of the Main Contractors standing power operated hoisting plant.	1	item			
F	Provide adequate barriers/tape/signage of exclusion zoning in relation to use of access equipment and ACOPs for working at height	1	item			
G	Provide construction signage (internal and external) in relation to M&E services e.g live systems etc.	1	item			
H	Provide temporary lighting and power in accordance with IS10101 Wiring Regulations.	1	item			
J	Provide protection to all M&E services installations installed during the works including protection against debris and water ingress	1	item			
K	Provide fire stopping to all electrical services on the vertical and horizontal planes throughout the entire buildings	1	item			
L	Ensure close coordination during the building phase to ensure electrical, ventilation and mechanical services are installed and integrated within the building fabric as designed.	1	item			
M	Provide grounds and fixings for suspension of Electrical services; Electrical loading = 10kg/m Mechanical loading = 40kg/m	1	item			
N	Provide boxing out of containment and pipework as necessary, boxing to be accessible with screwed access.	1	item			
P	Main contractor shall employ a full time M&E Co-ordinator for the duration of the contract works and their duties shall include but not limited to details set out within the specification A2.4 Part 1 of 4 particular specification document	1	item			
Q	Contractor shall be aware that drawings are indicative only including the minimum ope sizes; It will be the contractors responsibility in conjunction with their in-house M&E services coordinator to produce construction stage builders works drawings for DT comment	1	item			
R	Provide safe access and task lighting for electrical sub-contractor to all sections of school roofspace	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide safe access for electrical sub-contractor to all sections of the site	1	item			
B	The M&E installation within the SEN accommodation is to be a fully recessed installation. The contractor shall include for casting in of all electrical services and recessing of all radiators within the wall panels	1	item			
C	Seal all incoming services to prevent ingress of vermin	1	item			
D	Fire Stopping to all services penetrations throughout	1	item			
E	Attendance to electrical sub-contractor	1	item			
F	Provide accommodation for the subcontractors staff for eating, site lavatories, site washing facilities and cloakroom facilities.	1	item			
G	Each sub-contractor shall be permitted the free use, in common with other trades engaged on the site, of any available water supply, temporary plumbing and electrical services.	1	item			
H	Provide safe and dry storage accommodation for the sub-contractors materials, plant and tools.	1	item			
J	Provide space for the provision by the sub-contractors of their own site offices.	1	item			
K	Provide temporary telephone services to the Electrical Contractors temporary office and pay all charges associated with installation and operation.	1	item			
L	Provide temporary power supplies (3 phase 400V and maximum loading 15kVA) for welding, handtools, and for commissioning, including infrastructure and all charges fot the contractors use of the facility.	1	item			
M	Provide scaffolding additional to the main contractors standing scaffolding, or access towers if required.	1	item			
N	Protection/Maintenance, provide covers for placing on live equipment/fittings in areas under construction at the start of each work day and removing the covers at the end of each work day	1	item			
P	Provide facilities for safe removal and disposal of all materials off site	1	item			
Q	Provide a week by week program detailing the Mechanical and Electrical service activities	1	item			
R	Provide for heating / drying out the building as and when necessary to comply with their program. This may be done (at the clients specific consent) with the installed conventional heating system (if available). Be responsible, however, for providing the fuel to do this. Be responsible for maintaining background heat until the building is handed over to the client, after the heating system has been commissioned	1	item			
S	Provide and maintain the specific temperatures and humidity levels	1	item			
				To Collection €		

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	Provide Builders Attendances to all utility services as follows; Gas Networks Ireland, Eir, Virgin Media, Local Authority, ESB Networks.	1	item			
B	Fire stopping requirements of all services penetrations through fire compartment structures to be the responsibility of the building contractor. In addition, all pipework, ductwork, containment and service penetrations shall be fire-stopped where passing through every wall, floor and ceiling regardless if its a fire compartment or not by main contractor. Refer to M&E services drawings indicating main routes of M&E infrastructure. All instances of firestopping shall be labelled and certified using CE certified products including fire-pillows for use inside electrical trunkings.	1	item			
	Unload, hoist, distribute and place in position the following items of heavy plant and equipment					
C	Main switch board	1	item			
D	Sub-distribution boards	1	item			
E	MCC panel	1	item			
F	Containment	1	item			
G	Cabling	1	item			
H	Lighting	1	item			
	Sundries & Builders Work					
	General					
J	Marking positions of holes, mortices and chases	1	item			
K	Testing & Commissioning	1	item			
L	Preparing drawings of "as completed" installations	1	item			
M	Identification plates, labels and the like; Provide and fit colour identification markers to ceiling hatches to mark the location of isolating devices within ceiling voids	1	item			
N	Keys, tools and spares	1	item			
	Forming or cutting holes/mortices/chases and the like; including sleeves/plates, intumescent collars; making good structure and finishes; include for a fully completed installation where nothing must remain to be done to the installation by others; in strict accordance with the Architects/ Services Engineers drawings, schedule and specifications					
P	cutting or forming holes is deemed to include all finishes and decorations both sides of the structure		note			

					€	c
	(6-) ELECTRICAL INSTALLATION (Cont)					
A	cutting or forming opes is deemed to include the making good and sealing of the ope		note			
	Cutting or forming holes through existing external walls various thicknesses; include for building in sleeves; making good all finishes on completion					
B	200mm x 150mm opes	1	nr			
C	600mm x 150mm opes	2	nr			
	Cutting or forming holes through existing internal walls various thicknesses; include for building in sleeves; making good all finishes on completion					
D	200mm x 150mm opes	4	nr			
E	600mm x 150mm opes	1	nr			
	Fire stopping system to multiple and single service penetrations; including intumescent boards, fire stop laminate; intumescent foams and mastic; intumescent pillows; intumescent putty; mineral wool rigid batts; intumescent collars and sealants to achieve 1 hour fire resistance; all in accordance with the Architects specification P12					
	Special works were services pass through structures; existing external walls various thicknesses, making good all finishes on completion					
F	200mm x 150mm opes	1	nr			
G	600mm x 150mm opes	2	nr			
	Special works were services pass through structures; existing internal walls various thicknesses, making good all finishes on completion					
H	200mm x 150mm opes	4	nr			
J	600mm x 150mm opes	1	nr			
				To Collection €		

				€	c
(6-) ELECTRICAL INSTALLATION (Cont)					
COLLECTION					
Page No. Lot 8.7/34					
Page No. Lot 8.7/35					
Page No. Lot 8.7/36					
Page No. Lot 8.7/37					
Page No. Lot 8.7/38					
Page No. Lot 8.7/39					
Page No. Lot 8.7/40					
Page No. Lot 8.7/41					
Page No. Lot 8.7/42					
Page No. Lot 8.7/43					
Page No. Lot 8.7/44					
Page No. Lot 8.7/45					
Page No. Lot 8.7/46					
Page No. Lot 8.7/47					
Page No. Lot 8.7/48					
Page No. Lot 8.7/49					
Page No. Lot 8.7/50					
Page No. Lot 8.7/51					
Page No. Lot 8.7/52					
Page No. Lot 8.7/53					
Page No. Lot 8.7/54					
(6-) ELECTRICAL INSTALLATION **Carried to Summary**					

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND					
	EXCAVATION AND EARTHWORK					
	Excavation					
	Excavation					
	Reduce levels					
A	Depth between not exceeding 2.00m	41	m3			
	Extra on Excavation Items for:					
	Breaking up existing					
B	Hard surfaces; Tarmacadam surface; 100mm thick; complete	59	m2			
	Disposal					
	Water					
C	Surface	1	item			
D	Ground	1	item			
	Excavated material; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
E	Disposal off site	35	m3			
F	Disposal off site; existing Tarmac; Disposal to a suitable licensed waste disposal facility	6	m3			
	Filling with hardcore to be obtained off-site; clean angular gravel 20mm, free from pyrite and macarsite as per specification					
	To make up levels					
G	Average thickness not exceeding 250mm	6	m3			
	Filling with hardcore to be obtained off-site; Clause 804 crushed stone well compacted on firm clean formation; compliant with TII Publications series 800, free from pyrite and macarsite as per specification					
	To make up levels					
H	Average thickness not exceeding 250mm	6	m3			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Filling with granular fill material to be obtained off-site; Class 6F2 compliant with TII Publications series 600, free from pyrite and macarsite; depositing in 150mm layers maximum thickness; compacting; as per Drawings and Specification					
	To make up levels					
A	Average thickness exceeding 250mm	18	m3			
	Surface treatments					
	Levelling and compacting; bottom of excavations					
B	Horizontal	59	m2			
	CONCRETE WORK					
	In-situ Concrete					
	Concrete cubes for testing					
	Provide for making concrete cubes from freshly mixed concrete; transporting and testing cubes; all as per details in the Specification					
C	Size 150 x 150 x 150mm	2	nr			
	In-situ Concrete; Reinforced					
	Grade C40/5-XF4 to IS EN 206					
	Beds					
D	Generally; Reinforced	12	m3			
	Surface Finishes					
	Brushed finish to wet concrete as per Specifications					
E	Generally	59	m2			
	Reinforcement					
	Fabric					
	A252 mesh reinforcement; 350mm laps; 350mm end laps; all in strict accordance with the Engineers Drawings and Specification					
F	Horizontal	59	m2			

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Formwork					
	Formwork Generally					
	Sides of beds					
A	Height or width 250 - 500mm	44	m			
B	Extra over for forming recess in floor slab for district heating pipe; comprising 65mm dia x 400mm deep recess; include for cutting to all angles and corners	5	nr			
	SURFACE PAVINGS, FENCING AND LANDSCAPING					
	Fencing					
	Paladin Fencing; Steel mesh and wire fence to I.S. EN 10223, comprising striped mesh using 6mm horizontal wire at 145mm centres, reducing to 50mm centres on the V crimp, 4 mm wires structured with 2 No. wires at 40mm centres and 4 No. wires at 20mm centres to give a striped effect; all finished in polyester powder coating to I.S. EN 15773 & I.S. EN 12206; include for 60 x 60 x 2mm hot dipped galvanized steel posts to I.S. EN9 ISO 1461: 199 after fabrication and subsequently eletrostatically powder coated in a plant conforming to EN 1722 Part 16; post centres maximum 2080 mm; fixings: steel clips with 8 mm anti-vandal bolts; 350 x 350 x 600mm Grade C30/37 concrete bases set 100mm below ground level; all as per Specification and Drawings					
	Paladin Fencing System					
C	1800mm high above ground level	20	m			
	Extra over for					
D	Angle posts; 60x60x2 SHS posts, 1800mm high above ground level and 900mm below ground level; set in 450x450x600mm deep concrete grade C28/35 base	4	nr			
	Gates					
E	Single gate; opening size approx 1000 x 1800mm high	2	nr			
	100x100x10 SHS hot dipped galvanised SHS powder coated post; gate posts set in 1000x1000x1000mm C28/35 concrete pocket; top of concrete 300mm below ground level; galvanised to Specification and polyester powder coating to Specification in selected colour, colour to be chosen by the Architect from samples provided on site by the Contractor; complete					
	Gate Posts					
F	100 x 100 SHS posts; 1800mm high above ground level and 900mm below ground level; min 600mm embedment in concrete	4	nr			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Reflective Acoustic Post and Panel Fencing; Birkdale DuraPost or equivalent, comprising of commercial DuraPosts constructed from cold rolled pre-galvanised (DX51D Z275NA-C) steel, manufactured to EN 10346. Treated Redwood Acoustic Timber Boards constructed from 70% PEFC Certified 200mm x 47mm slow-grown redwood boards. The rebated capping is constructed from 85mm x 35mm twice weathered 70% PEFC Certified slow-grown redwood. EPDM Rubber Seal 10mm thick x 50mm wide Cellular Adhesive EPDM Sponge Strip. A general purpose sponge rubber with excellent resistance. Static Load Testing; 1447kg / 14.2kN. Acoustic Rating; 28dB Reduction. ass/M2 (Timber Boards) 23.7kg/M2. 350 x 350 x 600mm Grade C30/37 concrete bases set 100mm below ground level; all as per Specification and Drawing					
	Acoustic Paladin Fencing System					
A	2400mm high above ground level	24	m			
	Extra over for					
B	Angle posts; 60x60x2 SHS posts, 2400mm high above ground level and 900mm below ground level; set in 450x450x600mm deep concrete grade C28/35 base	4	nr			
	Gates					
C	Single gate; opening size approx 1000 x 2400mm high	1	nr			
	100x100x10 SHS hot dipped galvanised SHS powder coated post; gate posts set in 1000x1000x1000mm C28/35 concrete pocket; top of concrete 300mm below ground level; galvanised to Specification and polyester powder coating to Specification in selected colour, colour to be chosen by the Architect from samples provided on site by the Contractor; complete					
	Gate Posts					
D	100 x 100 SHS posts; 2400mm high above ground level and 900mm below ground level; min 600mm embedment in concrete	2	nr			
				To Collection €		

					€	c
	(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
	Ball stop netting (over gas compound); Description: Ball stop netting system installed over the full area of the gas tank compound, fixed to and supported from the top of paladin fencing, including all necessary supports, cables, brackets and fixings; Manufacturer: Submit proposals; Performance: Complete external system to prevent ingress of balls; Contractor to design system including supports and fixings; Allow for wind loading and avoid overloading fence, provide independent supports if required; Maintain safe clearances to all gas infrastructure and access routes; Netting; Material: UV stabilised HDPE or polypropylene; Colour: Black or green; Mesh size: Max 48 mm; Twine: Min 3 mm; Cables and fixings: Stainless steel or galvanised steel support cables with tensioning gear, non-corroding proprietary fixings; Support steelwork: Galvanised steel brackets/arms as required; Execution: Install taut and secure to manufacturer#s recommendations; Provide access/demountable sections where required; Do not overstress or modify fence without approval; Submittals: Product data, layout drawings and structural calculations.; all as per Specification and Drawing					
	Ball stop netting					
A	Exceeding 300mm wide	24	m2			
				To Collection €		

				€	c
(30) SITE ENCLOSURES - PLANT COMPOUND (Cont)					
COLLECTION					
Page No. Lot 8.7/56					
Page No. Lot 8.7/57					
Page No. Lot 8.7/58					
Page No. Lot 8.7/59					
Page No. Lot 8.7/60					
(30) SITE ENCLOSURES - PLANT COMPOUND **Carried to Summary**					

					€	c
	(50) SITE SERVICES - GAS					
	DRAINAGE/SERVICES - GAS MAIN					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 1nr duct not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported compacted stone fill; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations; as per Engineer's Drawing					
C	Average Depth 500 - 1000mm	51	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
D	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	46	m			
E	Excavating existing grass and making good to match existing after excavation and drainage runs have been laid	5	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	3	nr			
G	Foul pipe; crossing excavations	2	nr			
H	ESB; crossing excavations	2	nr			

					€	c
	(50) SITE SERVICES - GAS (Cont)					
	Disposal					
A	Ground Water	1	item			
B	Surface Water	1	item			
	Sand bed and surround; to Engineer's Specification					
	Beds and surrounds					
C	290 x 215mm, to 90mm pipes / ducts	51	m			
	PVC marker tape "Heptape" or equivalent					
D	Continuous strip laid during trench backfill, 100mm above pipework	51	m			
	Mechanical Installations					
	Gas pipework as per Engineer's Specification & Gas Suppliers details; complete					
	Pipework					
E	Installation only of gas pipework; size: 90mm; pipe to be supplied by Gas Supplier; complete	51	m			
	Tank					
F	Contractor to provide attendances to supplier of 2000L Gas Tank; complete	1	nr			
	MECHANICAL INSTALLATIONS					
	Generally					
	General; complete; refer to M&E Drawings, M&E Mechanical Engineering General Specification					
	General					
G	Testing and commissioning; all in accordance with Engineers specification documents and drawings	1	Item			
H	Operating and maintenance manuals; all in accordance with Engineers specification documents and drawings	1	Item			
J	Working drawings; all in accordance with Engineerss specification documents and drawings	1	Item			
K	Co- ordination drawings; all in accordance with Engineers specification documents and drawings	1	Item			
L	As built drawings; all in accordance with Engineers specification documents and drawings	1	Item			

To Collection €

					€	c
	(50) SITE SERVICES - GAS (Cont)					
A	Identification plates, labels and the like; all in accordance with Engineers specification documents and drawings	1	Item			
B	Builderswork; forming and cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels etc. and amking good, all in accordance with Engineers specification documents and drawings	1	Item			
C	Fire stopping and other associated fire protection works; all in accordance with Engineers specification documents and drawings	1	Item			
				To Collection €		

				€	c
(50) SITE SERVICES - GAS (Cont)					
COLLECTION					
Page No. Lot 8.7/62					
Page No. Lot 8.7/63					
Page No. Lot 8.7/64					
(50) SITE SERVICES - GAS **Carried to Summary**					

					€	c
	(50) SITE SERVICES - DISTRICT HEATING					
	DRAINAGE/SERVICES - DISTRICT HEATING					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr duct not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported compacted stone fill; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations; as per Engineer's Drawing					
C	Average depth 500 - 1000mm	57	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
D	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	52	m			
E	Excavating existing grass and making good to match existing after excavation and drainage runs have been laid	5	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	3	nr			
G	Foul pipe; crossing excavations	2	nr			
H	ESB; crossing excavations	2	nr			
				To Collection €		

					€	c
	(50) SITE SERVICES - DISTRICT HEATING (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Sand bed and surround; to Engineer's Specification					
	Beds and Surrounds					
C	525 x 250mm; to 2nr 125mm duct	57	m			
	PVC marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	57	m			
	Ductwork					
	125mm diameter					
E	Laid in trenches	113	m			
F	Extra over for easy sweep bends	6	nr			
	MECHANICAL INSTALLATIONS					
	Generally					
	General; complete; refer to M&E Drawings, M&E Mechanical Engineering General Specification					
	General					
G	Testing and commissioning; all in accordance with Engineers specification documents and drawings	1	Item			
H	Operating and maintenance manuals; all in accordance with Engineers specification documents and drawings	1	Item			
J	Working drawings; all in accordance with Engineerss specification documents and drawings	1	Item			
K	Co- ordination drawings; all in accordance with Engineers specification documents and drawings	1	Item			
L	As built drawings; all in accordance with Engineers specification documents and drawings	1	Item			
M	Identification plates, labels and the like; all in accordance with Engineers specification documents and drawings	1	Item			
				To Collection €		

					€	c
	(50) SITE SERVICES - DISTRICT HEATING (Cont)					
A	Builderswork; forming and cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels etc. and amking good, all in accordance with Engineers specification documents and drawings	1	Item			
B	Fire stopping and other associated fire protection works; all in accordance with Engineers specification documents and drawings	1	Item			
				To Collection €		

				€	c
(50) SITE SERVICES - DISTRICT HEATING (Cont)					
COLLECTION					
Page No. Lot 8.7/66					
Page No. Lot 8.7/67					
Page No. Lot 8.7/68					
(50) SITE SERVICES - DISTRICT HEATING **Carried to Summary**					

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	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS						
	Notes						
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.			note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by Semple McKillop Consulting Engineers.			note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Mechanical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.			note			

To Collection €

(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)

ALTERNATIVE RULES FOR THE MEASUREMENT OF MECHANICAL INSTALLATIONS

(50) SITE SERVICES (MAINLY MECHANICAL) - HEAT PUMPS

System

External Air source Heat Pump installation, testing and commissioning; complete with all associated plant, pipework, valves, controls, insulation, frost protection, fully integrated with the building heating system; The heating system shall be flushed and provided with appropriate chemical treatment; The contractor shall provide, prior to handover, a commissioning certificate to confirm that correct treatment has been carried out; all in strict accordance with the Mechanical Engineers Specification Volume 1; Volume 2; Volume 3; Volume 4 and Drawings M-5601

Primary Equipment

Air Source Heat Pump; The Contractor shall supply, install, test and commission packaged high efficiency, low noise, electric Air Source Heat Pump; complete; Heating Capacity (kW): 63.7kW; CoP (W/W): 2.7; SCoP (W/W): 3.67; Efficiency (%): 117; Compressor Type: Semi-Hermetic; Minimum Number of Compressors: 2; Source Heat Exchanger: Cu/Al pipes and fins with hydrophilic coating #Blue Fins#; User Heat Exchanger: Braze Welded Plate, Heat Exchanger (AISI 316 Stainless Steel) c/ w closed cell insulation and discharge temp sensor for anti-freeze protection; Refrigerant Type: R290; Outdoor Air Temp (øC): -3.0; Outdoor Relative Humidity (%): 80; Fluid Type: Water; In/Out Fluid Temp (øC): 50.0 / 55.0; Super Low Noise: Required; Max Fan RPM: 900 (low noise); Construction: Galvanised Sheet Steel painted with polyurenate powder enamel c/w removable panels; Control & rotection Devices: Required; Control Panel: Microprocessor based c/w display showing all operational icons and connections for MODBUS protocols; Serial Interface Card RS485: Required to allow the controller to communicate using Modbus Protocol; Head Pressure Control: This device, using a pressure probe installed on the source heat exchanger, controls the fan speed with respect to the ambient conditions; Accessories: Rubber Antivibration feet/pad, Condensate Drip Tray, Anti Freeze Kit, Pressure Gauges, Master / Slave Cascade Control system, Outdoor Air Temperature Sensor for Weather Compensation, Hydraulic Kit comprising centrifugal circulating pump c/w safety valve & fill/drain point; Defrost: Method Reverse Cycle; Defrost Control: Sensor for outdoor temperature; Warranty: 5 year parts and labour; include for all accessories; all in strict accordance with the Mechanical Engineers Equipment Schedule no. 1.1

To Collection €

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(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
Warranty Requirements: The Tenderer shall ensure that all heat pump equipment supplied and installed under this contract is covered by a minimum warranty period of five (5) years post date of substantial completion.The warranty must ensure cover of:#Compressor, refrigerant circuit, heat exchangers, controls, and all major components#Labour, parts, diagnostics, and call outs for warranty repairs#No exclusions applied since operating due to typical operating profiles defined in this documentWarranty validity shall be dependent upon:#Correct system design and installation#Proper commissioning by competent personnel#Operation within the design parameters described below#Compliance with the maintenance regime set out in this section#Internet connection for continuous diagnostics (applicable to certain manufacturers)Where longer manufacturer warranties or reduced frequency service requirements are available at no additional cost, or at a cost saving, the Tenderer must include these within the tender. Service & Maintenance Requirements: The Tenderer shall allow for the minimum maintenance regime for the installed heat pump system in the tender pricing in order to maintain the 5-year warranty. Service Frequency# One service visit preferably every two (2) years, unless the equipment manufacturer explicitly requires a shorter interval (minimum one (1) year).(Tenderers shall only price for annual servicing if supported by documented manufacturer requirements.)#It is in the Tenderer#s interest to negotiate with heat pump manufacturers for longer service intervals in order to price their bid competitively."Minimum Service Scope (Biennial Visit): Each service visit must include at minimum:# Inspection and performance review of the refrigerant circuit# Verification of electrical connections and controls# Checks on hydraulic conditions (flow rates, pressures, pump performance)# Cleaning of filters, strainers, and debris screens# Cleaning of coil and fins. # Verification of correct operation, setpoints, and system sequencing# Review of system logs and operational history to confirm stable operationMaintenance must be carried out by competent personnel and appropriately recorded.Tenderers, must include all maintenance requirements to maintain the heat pump warranty for the 5 year period post substantial completion, in their tender pricing. Normal Design & Operating Parameters:For warranty purposes, #normal design conditions# refer to operation within the system#s intended thermal and hydraulic envelope, including:Project Specific OperationFor the installations considered in this project:# Systems are designed for ~55øC flow temperatures to maximise efficiency and minimise equipment stress, with the ability to operate at higher temperatures during peak demand within heat pump limits.# Backup boilers (gas/oil) will support peak loads and extreme conditions# The buildings have predictable, daytime based occupancy profiles and low annual running hours due to being schools# Heat pumps will operate predominantly during controlled and stable load conditionsThese factors result in:# Predictable and stable thermal loads# Reduced mechanical and thermal cycling# Lower probability of component stress or degradation# Improved reliability and long term warranty compliance					
			To Collection €		

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	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Tender Note # Commercial & Technical Expectations:Tenderers must base their submission on the following assumptions:# The systems are conservatively designed and operate comfortably within their capabilities# There is no reliance on electric backup# Operating conditions are stable due to predictable school occupancy profiles# A minimum 5 year warranty must be provided# Only the biennial service visit (once every two years) shall be priced into the tender unless the manufacturer requires otherwise# Tenderers are strongly encouraged to secure extended service intervals from their suppliers to improve lifecycle cost efficiency					
A	Air source heat pump Ref: ASHP-01; Location: External plant compound	1	nr			
B	Air source heat pump Ref: ASHP-02; Location: External plant compound	1	nr			
	Accessories associated with Primary Equipment					
	Isolation valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
C	90mm Stop valves	3	nr			
	Non-return valves; for isolation of LPHW pipework; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
D	90mm Non-return valves	2	nr			
	Strainer valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
E	90mm STR Valves	1	nr			
	Non-close valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
F	90mm Non-close valve	1	nr			
	Auto-air vent valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
G	90mm Auto-air vent valve	2	nr			
	Drain cock valve; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
H	90mm Drain cock valve	2	nr			
	Test point valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
J	90mm Test point valves	4	nr			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Commissioning sets; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
A	90mm Commissioning set	1	nr			
	Temperature Sensor; linked to BMS; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
B	90mm Temperature Sensor	2	nr			
	Pressure Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
C	90mm Pressure Gauge	2	nr			
	Temperature Gauge; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
D	90mm Temperature Gauge	2	nr			
	Flexible connections; include for all accessories and fittings; complete; all in accordance with the Mechanical Engineers Specification Part 3, Section 2					
E	90mm Flexible connections	4	nr			
	Anti-frost valves; include for all fittings and accessories; all in accordance with the Mechanical Engineers Specification Volume 2					
F	90mm Anti-frost valve	2	nr			
	Distribution					
	Pre-insulated, self-compensating, flexible heating pipework and fittings; Miniumum heat loss of 0.216W/m; Insulation: closed cell PUR foam wrapped in corrugated HD PEXa; Operating temp: 95øC; tested to 6 bar; include for all accessories; all in strict accordance with the Mechanical Engineers Specification and Drawings M-5601					
G	90mm diameter pipework	1	item			
	Medium Grade Black Mild steel pipework and fittings; include for all fixings and supports; include for all elbows, expansion bellows; unions and tees necessary to complete the work, all pipework up to 50mm to be screw joints, pipework above 50mm to be welded, plant room pipework to be flanged; all connections to valves shall be screwed; Painting: two coat of zinc chromate primer prior to fitting of insulation; all in strict accordance with the Mechanical Engineers Specification Part 3, Section 1					
H	90mm diameter pipework	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Insulation					
	Foiled faced fibreglass insulation; to all new pipework services; class A1, CFC and HCFC free with ozone depletion factor of zero; Thermal conductivity not exceeding 0.04W/m2K at 100øC; all joints taped and sealed; all in strict accordance with the Mechanical Engineers Specification Part 1, Section 4.2					
	Insulation, 40mm thick					
A	to 90mm diameter pipework	1	item			
	Valve jackets provided with Velcro fixings shall be provided on all valves, flanges, pumps and heat exchangers within the plant rooms and externally. All valve jackets used on external pipework shall be weather proof; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
B	General Valve & Plant	1	item			
	Aluminium Cladding; 18mm gauge aluminium, fixed with self-tapping screws; all in strict accordance with the Mechanical Engineers Specification					
C	to 90mm diameter pipework	1	item			
D	General Valve & Plant	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
E	Testing and commissioning	1	item			
F	Testing,chemical dosing, sterilization and certification of all systems	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
G	Operating and maintenance manuals	1	item			
H	Heat pump servicing; One service visit preferably every two (2) years, or in accordance with manufacturers requirements in order to maintain 5 year warranty.	1	item			
	Working drawings; all in accordance with Engineers Specification					
J	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
K	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
L	As built drawings	1	item			
				To Collection €		

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Identification plates, labels and the like; all in accordance with Engineers Specification					
A	Identification plates, labels and the like	1	item			
	(50) SITE SERVICES - TRACE HEATING					
	System					
	Trace Heating installation, testing and commissioning; complete; Trace heating shall be installed on all the water systems where they travel externally between building blocks; Trace heating shall be provided complete with control panels and all required components to prevent system freezing. Capacity of trace heating shall maintain water temperature above 3øC when ambient temperature is -15øC. Trace heating temperature control shall prevent water temperature rising above 10øC. Trace heating system to incorporate air control thermostats and pipework safety cut out thermostats. All trace heating circuits shall be linked to BMS to provide status and fault indication on BMS; Supply electric trace heating complete with fixing tape, shrink sleeves, crimps, junction boxes and controls; all in strict accordance with the Mechanical Engineers Specification and Drawings					
	Primary Equipment					
	Trace heating control panel; all in strict accordance with the Electrical Engineers Specification					
B	Trace heating panel Location: Plant room	1	nr			
	Accessories associated with Primary Equipment					
	Self-regulating heating tape; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
C	Self-regulating heating tape	1	item			
	Air control thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
D	Air control thermostats	1	item			
	Safety cut out thermostats; supply and installation; complete; all in strict accordance with the Electrical Engineers Specification					
E	Safety cut out thermostats	1	item			

To Collection €

					€	c
	(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
	Insulation					
	Modified polyolefin electrical insulation; all joints taped and sealed; all in strict accordance with the Electrical Engineers Specification					
A	65mm diameter pipework	1	item			
B	Valves and Plant; generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
C	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
D	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
E	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
F	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
G	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
H	Identification plates, labels and the like	1	item			
				To Collection €		

				€	c
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.7/70					
Page No. Lot 8.7/71					
Page No. Lot 8.7/72					
Page No. Lot 8.7/73					
Page No. Lot 8.7/74					
Page No. Lot 8.7/75					
Page No. Lot 8.7/76					
Page No. Lot 8.7/77					
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	57	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	52	m			
F	Excavating existing grass and making good to match existing after excavation and drainage runs have been laid	5	m			
	Around existing services crossing excavations					
G	Storm pipe; crossing excavations	3	nr			
H	Foul pipe; crossing excavations	2	nr			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
A	ESB; crossing excavations	2	nr			
	Disposal					
B	Ground water	1	item			
C	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
D	595 x 325mm; to 2nr ducts	57	m			
	PVC Red marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 100mm above pipework	57	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
F	Continuous strip; laid during trench backfill; 300mm above pipework	57	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
G	Laid in trenches	113	m			
H	Extra over for easy sweep bends	6	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
J	Average depth not exceeding 1000mm	3	nr			
	Sundries					
K	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
A	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			
B	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
C	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
D	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
E	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP (Cont)					
COLLECTION					
Page No. Lot 8.7/79					
Page No. Lot 8.7/80					
Page No. Lot 8.7/81					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER					
	General Information					
	Information					
A	When pricing the following items the Contractor's attention is drawn to the location of the site. The Contractor should also visit and check the site. No claims on the grounds of want of knowledge in respect of the above will be entertained whatsoever.		note			
B	Any un-authorised excavations below the required level shall be made up with concrete of the same composition as for drain beds at the Contractors own expense; all as per Architects Specification		note			
C	The contractor shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. All, redundant site services/site services made redundant, for all utilities and services, will be removed as part of the contract.	1	item			
	Builders work in connection with all installation					
	Excavation					
	Excavating trenches to receive 2nr ducts not exceeding 250mm diameter, earthwork support to sides of trenches; include for excavating below ground water level; grading bottoms of excavations; backfilling with imported hardcore; disposal of surplus soil off site; All surplus materials to be disposed of off-site to a licenced waste disposal facility granted by the EPA under Section 40 of the Waste Management Act or by the Local Authority under the Waste Facility Permit Regulations					
D	Average depth 500 - 1000mm	5	m			
	Extra over excavating trenches irrespective of depth					
	Breaking up & Reinstating					
E	Breaking out hardurfacing; saw cutting surface; include for reinstating surfacing to match existing including Type 804 sub base material where necessary; fair jointing to fair edges; disposal of excavated material off site; include for replacing associated concrete kerbs; all to satisfaction of Engineers Specification & Drawings	5	m			
	Around existing services crossing excavations					
F	Storm pipe; crossing excavations	1	nr			
G	Foul pipe; crossing excavations	1	nr			
H	ESB; crossing excavations	1	nr			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
	Disposal					
A	Ground water	1	item			
B	Surface water	1	item			
	Plain in-situ concrete bed and surround; minimum 150mm bed; Class 16/20; leanmix concrete backfill; as per Engineer's Drawing					
	Beds and Surrounds					
C	595 x 325mm; to 2nr ducts	5	m			
	PVC Red marker tape; "Heptape" or equivalent					
D	Continuous strip; laid during trench backfill; 100mm above pipework	5	m			
	PVC Yellow marker tape; "Heptape" or equivalent					
E	Continuous strip; laid during trench backfill; 300mm above pipework	5	m			
	Ductwork; uPVC duct					
	100mm dia.; include for draw-wire					
F	Laid in trenches	9	m			
G	Extra over for easy sweep bends	2	nr			
	Chambers					
	Draw pit chamber; complete; excavating pits from stripped level 1000x1000x800mm deep internally; dispose of surplus soil; grading bottom; earthwork support; open bottom pit filled with 50mm course gravel for drainage; RC3 concrete base on 50mm blinding grade gen 3; Concrete roof slab grade C25 c/w opening for cover and frame; 225mm thick Class B engineering brickwork in english bond; Walls: 1000mm high with 50mm rebate for removable cover; include for openings for ducts; Heavy duty cast iron cover and frame to Engineer's Specification bedded in epoxy mortar; include for step irons; all pvc pipes to fall away from building and all pits should not waterlog; pipes to be buried 750mm below ground level; include for backfilling to sides of chamber where necessary; all in accordance with the site plan Drawing					
H	Average depth not exceeding 1000mm	1	nr			
	Sundries					
J	Allow for sealing all incoming service ductwork to prevent ingress of damp, dirt and vermin	1	item			
K	Allow for clearance between Telecom ducts and ESB ducts and cables over 650 volts; of 300mm vertical clearance at crossings and 600mm lateral clearance in parallel trenches	1	item			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
A	Allow for clearance between ESB ducts and cables and other service ducts; 150mm vertical clearance at crossings and 300mm lateral clearance in parallel trenches	1	item			
B	Provide for all necessary attendances on ESB to include liaising with ESB before, during and after installation of electrical services and providing and making available site data for their use	1	item			
C	Provide markings/signage of ESB cables at locations as agreed with Local Engineering Officer and in accordance with ESB Specifications; as per Engineer's Drawing	1	item			
D	Provide all necessary attendances and builders work in association with disconnecting and removing existing underground ESB supply; complete	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER (Cont)					
COLLECTION					
Page No. Lot 8.7/83					
Page No. Lot 8.7/84					
Page No. Lot 8.7/85					
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER Carried to Summary					

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS					
	Notes					
A	The tendering contractors are referred to ARM 4 supplement 2, Agreed Alternative Rules for the Measurement of Services Installations (Issue 1, 2013), used in the production of this section of the pricing document.		note			
B	The following works are to be priced in accordance with the detailed design; performance specifications and scheme drawing numbers (list included in the Works Requirements) as prepared by BDP Consulting Engineers.		note			
C	Builders work in connection with the contract works such as cutting or drilling of holes, forming apertures, chases in walls, floors and ceilings will be carried out by the Works Specialist under the terms of the main contract. The Electrical Specialist shall be responsible for the correct marking out of all attendances, and all other cutting to be performed by the Works Specialist.		note			
	ALTERNATIVE RULES FOR THE MEASUREMENT OF ELECTRICAL SERVICES					
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE LV INSTALLATIONS					
	System					
	LV installation, testing and commissioning; complete; The Contractor shall allow for the supply and installation of all switchgear, distribution boards and sub-mains cables in accordance with the drawings and attached specification; The Contractor shall be responsible for safe off-loading, receiving, storage, positioning and fixing of the boards and shall be liable for any damage to boards during installation; The Contractor shall submit working drawings to the Engineer for approval prior to manufacture of switchgear; the contractor shall allow for liaising with the ESB; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-5001					
D	Site LV Installation	1	item			
	Equipment					
	Metering Switch Board; supply and installation; complete; Enclosure Type: Renely or equivalent; Cable Entry: bottom; Cable Exit: Top; complete with and including 1nr 400amp TP ABC Isolator, earth bond, ESB sealed metering cubicle, metering enclouser (to facilitate future upgarde CT metering), 2nr 400amp TP MCCB, shunt trip; surge protection; 800amp bush bars braced for 50kA AT 1s; 1nr 160amp TP MCCB, 2nr 250amp TP MCCB; distribution board to provide 30% spare capacity for future expansion; complete with and include for all PVC cables, bush bar system, TP&N's, MCCB's, MCB's, RCBO's; Labels: Traffolyte, black on white, screw on type, to all chambers inside and outside the panel; Testing and commissioning: in accordance with current standards; all in strict accordance with the Electrical Engineers Specification Part 1, include for all accessories; all in accordance with the Electrical Specifications					
E	Metering Switch Board; Ref: REN-1; Location: External	1	nr			

To Collection €

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Fittings					
	Multi-function digital meter; supply and installation (including wiring), complete; These meters shall measure the various energy and electrical operational parameters for the various outgoing supplies, to enable the users to monitor their electricity usage; Modbus communications complete with link back to BMS; installation as per Engineers recommendations; all in accordance with the Electrical Specifications					
A	Multi-function digital meter	2	nr			
	Circuit charts; printed circuit charts shall be provided c/w a perspex cover and fitted to the inside of each distribution board access door; include for all accessories; in strict accordance with the Electrical Specification					
B	Circuit charts to switch boards; Ref: REN-1	1	nr			
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from REN-1; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
C	Submains Ref: 6; REN-01 to MSB-2; 4 x 50sq.mm XLPE/SWA/LSF + 25sq.mm CPC	1	item			
D	Submains Ref: 8; REN-01 to MSB-1; 4 x 95sq.mm XLPE/SWA/LSF + 50sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
E	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
F	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
G	Operating and maintenance manuals; complete	1	nr			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
A	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
B	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
C	As built drawings; complete	1	item			
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
D	Identification plates, labels and the like; complete	1	item			
	(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER TO HEAT PUMPS					
	System					
	Power to Heat pumps installation, testing and commissioning; complete; The electrical contractor shall provide all wiring and power supplies associated with the external heat pumps as detailed on the wiring schematic; all underground electrical services cables shall be distributed within ducts; separate underground service ducts shall be provided as part of the builders works element; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000, ME-5001					
E	Heat Pump Power Installation	1	item			
	Accessories associated with terminal equipment					
	Isolator Switch; supply and installation (including wiring); complete; c/w back boxes; all in accordance with the electrical specification					
F	Rotary Isolator; TP; 40amp; external	2	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Mains and Sub-mains cables					
	Supply and Installation of sub-mains cable from MSB-02; Location: ground floor electrical cupboard of the proposed extension; to Air-source heat pumps, Location: located remotely on-site; Sub-mains distribution shall be via XLPE/ LSF/SWA/LSF armored cables laid in under ground ducts; a separate CPC shall be installed with every sub-mains feed and shall be of the size detailed on the drawings; terminating at both ends; all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
A	Submains Ref: 5; MSB-02 to ASHP01; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
B	Submains Ref: 5; MSB-02 to ASHP02; 4 x 35sq.mm XLPE/SWA/LSF + 16sq.mm CPC	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Engineers Specification					
C	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with the Electrical Engineers specification documents and drawings					
D	Testing and commissioning; complete	1	item			
	Operating and maintenance manuals; all in accordance with the Electrical Engineers specification documents and drawings					
E	Operating and maintenance manuals; complete	1	nr			
	Working drawings; all in accordance with the Electrical Engineers specification documents and drawings					
F	Working drawings; complete	1	item			
	Co- ordination drawings; all in accordance with the Electrical Engineers specification documents and drawings					
G	Co- ordination drawings; complete	1	item			
	As built drawings; all in accordance with the Electrical Engineers specification documents and drawings					
H	As built drawings; complete	1	item			
				To Collection €		

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Identification plates, labels and the like; all in accordance with the Electrical Engineers specification documents and drawings					
A	Identification plates, labels and the like; complete	1	item			
	(60) SITE SERVICES (MAINLY ELECTRICAL) - SITE EARTHING & BONDING					
	System					
	Earthing and Bonding installation; testing and commissioning; The contractor shall undertake to effectively earth the whole of the electrical installation in accordance with the NSAI I.S. 10101: 2020+A1:2024 Regulations; Main equipotential earth bonding should be provided from each of the following items, as a minimum, to the main earthing bar: Incoming Water Main, Incoming Gas Main, Metal drainage pipes, Structural Steelwork, Main Heating Pipework, Main Ventilation Ductwork, Lightning Protection System, Comms Rooms, Supplementary earth bonding shall be carried out on extraneous metal parts at the following locations: Metallic Wireways and Containment, Suspended Ceiling Grids, Wash Hand Basins, Showers, Sinks, WC's, Cleaners Sinks, Catering equipment, Metal worktops, Plantroom Pipework (e.g. across pumps, valves, vessels, etc.); all in strict accordance with the Electrical Engineers Specification and Drawings E-6000					
B	Earthing and Bonding	1	item			
	Fittings					
	Main Earth Terminal Bar; supply and installation; complete; The installations shall be provided with main earthing terminals or bars as part of the main L.V. Switchboard, to which the earthing conductors, the circuit protective conductors and the main bonding conductors shall be connected. The earthing terminals shall take the form of approved connector blocks, complete with insulating shrouds to BS 5733 and of suitable capacity for the number and size of cables to be connected; include for all fittings; all in accordance with the Electrical Engineers Specification					
C	Main Earth Terminal Bar	1	nr			
	Earthing points c/w inspection box; earth electrodes in accordance with I.S 10101:2020; complete; all in strict accordance with the Electrical Engineers Specification					
D	Earthing Points	4	nr			

					€	c
	(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
	Cables					
	Earth conductor cable; supply and installation complete; Cable size 95mm2 LSF earth; mechanically protected throughtout; all in accordance with the Electrical Engineers Specification					
A	Earth terminal bar to earth pits	1	item			
B	Switchboard to earth pits	1	item			
	General Earthing and Bonding					
	General Earthing and Bonding; Design parameters as defined within I.S 10101: 2020 regulations; all in strlct accordance with the Electrical Specification					
C	Generally	1	item			
	General					
	Testing and commissioning; all in accordance with Engineers Specification					
D	Testing and commissioning	1	item			
	Operating and maintenance manuals; all in accordance with Engineers Specification					
E	Operating and maintenance manuals	1	item			
	Working drawings; all in accordance with Engineers Specification					
F	Working drawings	1	item			
	Co-ordination drawings; all in accordance with Engineers Specification					
G	Co-ordination drawings	1	item			
	As built drawings; all in accordance with Engineers Specification					
H	As built drawings	1	item			
	Identification plates, labels and the like; all in accordance with Engineers Specification					
J	Identification plates, labels and the like	1	item			
				To Collection €		

				€	c
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS (Cont)					
COLLECTION					
Page No. Lot 8.7/87					
Page No. Lot 8.7/88					
Page No. Lot 8.7/89					
Page No. Lot 8.7/90					
Page No. Lot 8.7/91					
Page No. Lot 8.7/92					
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS Carried to Summary					

				€	c
SUMMARY	**Page No.**				
(10) DEMOLITIONS AND ALTERATIONS	Lot 8.7/2				
(31) EXTERNAL WALL COMPLETIONS	Lot 8.7/4				
(35) & (45) CEILING FINISHES	Lot 8.7/6				
(5-) MECHANICAL INSTALLATION	Lot 8.7/33				
(6-) ELECTRICAL INSTALLATION	Lot 8.7/55				
(30) SITE ENCLOSURES - PLANT COMPOUND	Lot 8.7/61				
(50) SITE SERVICES - GAS	Lot 8.7/65				
(50) SITE SERVICES - DISTRICT HEATING	Lot 8.7/69				
(50) SITE SERVICES (MAINLY MECHANICAL) - MECHANICAL INSTALLATIONS	Lot 8.7/78				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER & COMMS TO ASHP	Lot 8.7/82				
(60) SITE SERVICES (MAINLY ELECTRICAL) - POWER FROM NEW METER	Lot 8.7/86				
(60) SITE SERVICES (MAINLY ELECTRICAL) - ELECTRICAL INSTALLATIONS	Lot 8.7/93				
Total amount carried to general summary					
Lot 8.7/1 - Lot 8.7/93.					

GENERAL SUMMARY

						€	
		GENERAL SUMMARY					
		Amount for:					
A		**PRELIMINARIES**					
B		**8.1 - Scoil Na Rithe**					
C		**8.2 - Our Lady of Mercy NS**					
D		**8.3 - Castlejordan Central NS**					
E		**8.4 - S N Cul An Mhuilinn**					
F		**8.6 - Ughtyneill NS**					
G		**8.7 - St Oliver Post primary**					
H		**Total (excluding VAT)**			**€**		
		Provide for:					
I		entering into a bond with an approved Insurance Company which will become bound jointly and severally with the Contractor in a sum equal to 12.5% of the contract sum; paying all premiums and expenses arising; complying with all conditions of the bond; lodging the bond with the Architect		Item			
		PROJECT SUPERVISOR					
J		Provide for all costs in respect of: The appointment of project supervisor for the Construction Stage. We agree to nominate a suitably qualified person to provide the required services and have included for all costs associated with the provision of such services to fulfill the function and perform on behalf of the Employer the duties of the Project Supervisor for the Construction Stage as set out in paragraphs 6 & 7 of the safety, Health and Welfare at Works Construction Regulations 2013; complying with the Conditions of the Collateral Agreement including any additional insurance costs **(Exclusive of Value Added Tax)**		Item			
		TOTAL AMOUNT OF TENDER (EXCLUDING VAT) FORWARD TO FORM OF TENDER			**€**		

APPENDIX A - VAT SCHEDULE

SCHEDULE OF WORKS ITEMS SUBJECT TO VAT AT RATES OTHER THAN SPECIAL BUILDING RATE (13.5%)

Notes

1. Please list separately the items included in the tender amount (including M&E Items) that are liable for VAT at rates other than the special building rate (13.5%) i.e. 23% to allow for the calculation of the Employer's total VAT outlay on the contract. — Note

2. The Employer reserves the right to seek advice from the Revenue Commissioners on the accuracy of the VAT allocations shown and, in the event of a dispute, the opinion of the Revenue Commissioners on the VAT rate appropriate to any item of work shall be final. — Note

3. Where the cost of any items are VAT exempt or zero rated zero rated for VAT purposes the relevant items shall be itemised and the amount of the liability at this rate shall be clearly identified — Note

4. This schedule is for information purposes only and should not be carried forward to the General summary and will therefore not be included in the Tender amount. — Note

Ref	Description	Unit	Amount Subject to VAT at rates other than 13.5% €	VAT Percentage Amount e.g. 23% %	Amount of VAT €

	Please See Below Example on How the Schedule is to be Filled Out (For information Purposes Only)	Note			
	The following example should not form any part of the Tenderers calculation	Note			
	Example Light Fittings	Item	€10,000.00	23.00%	€2,300.00
A	**Works Items**				
B		Item			
C		Item			
D		Item			
E		Item			
F		Item			
G		Item			
H		Item			
I		Item			
J		Item			
K		Item			
L		Item			
M		Item			
N		Item			

Ref	Description	Unit	Amount Subject to VAT at rates other than 13.5% €	VAT Percentage Amount e.g. 23% %	Amount of VAT €
	Works Items				
A		Item			
B		Item			
C		Item			
D		Item			
E		Item			
F		Item			
G		Item			
H		Item			
I		Item			
J		Item			
K		Item			
L		Item			
M		Item			
N		Item			
O		Item			
P		Item			
Q		Item			
R		Item			
S		Item			
T		Item			
U		Item			
V		Item			

Ref	Description	Unit	Amount Subject to VAT at rates other than 13.5% €	VAT Percentage Amount e.g. 23% %	Amount of VAT €
	Works Items				
A		Item			
B		Item			
C		Item			
D		Item			
E		Item			
F		Item			
G		Item			
H		Item			
I		Item			
J		Item			
K		Item			
L		Item			
M		Item			
N		Item			
O		Item			
P		Item			
Q		Item			
R		Item			
S		Item			
T		Item			
U		Item			
V		Item			

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