# SPECIFICATION FOR TOTAL WASTE MANAGEMENT SERVICE

Period: 1<sup>st</sup> February 2018 to 31<sup>st</sup> January 2023 (with an option to extend for two 24-month periods)

# 1 Introduction

1.1 This contract will be for Total Waste Management Services. This contract agreement will manage all waste streams from cradle to grave and is intended to be a partnership contract between the Bedford NHS Trust Hospital, Luton and Dunstable University Hospital and Milton Keynes University Hospital NHS Foundation Trust ("the Trusts") and the supplier(s) (the "Bidder(s)".)

Bidders should be aware that this service provision must address carbon reduction opportunities and the sustainability agenda by minimising waste and providing this service as environmentally friendly. In submitting their bids, Bidders should place particular emphasis on how the service will be provided and how Bidders will assist the Trust in meeting the NHS Carbon Reduction Strategy.

- 1.2 The purpose of this section is to introduce the Bidder to the required service and to detail the parameters within which the Bidder must operate. It imparts as much information as possible in order that the Bidder's schedule of work may be provided effectively.
- 1.3 The Bidder is to indicate its proposals for meeting the requirements of the tender documentation, together with costs, returned on the attached Form of Tender. The total workload is to be assessed by the Bidder. Bidders must visit the sites prior to tendering in order to establish the acceptability of their proposed methods of collection and disposal.
- 1.4 The Trusts will expect initiatives to minimize waste levels and fully maximise recycling opportunities. These initiatives must be sustainable, cost-effective and provide waste management services to the best environmental standards.

# 2 Trust Profiles

- 2.1 This specification represents the requirements of the Trusts, which provide acute health care services in Luton, Bedford and Milton Keynes.
- 2.2 The addresses of the locations detailed in this specification are:
  - Bedford Hospital NHS Trust South Wing Kempston Road Bedford MK42 9DJ
  - Milton Keynes University Hospital NHS Foundation Trust Standing Way, Eaglestone, Milton Keynes MK6 5LD
  - Luton and Dunstable University Hospital NHS Foundation Trust Lewsey Road Luton. Beds . LU4 ODZ

# 3 Service Requirement

3.1 To provide a comprehensive Total Waste Management service to the Trusts.

# 4 Legislation and Guidance:-

4.1 The successful Bidder will be required to comply with all applicable legislation and guidance and must demonstrate in its proposal how it ensures compliance with current legislation and keeps up-to-date with changes to legislation and guidance.

4.2 Pre acceptance audits. The EA imposed legal requirements in environmental permits for Disposal sites to ensure that audits of clinical waste are undertaken before it can be accepted. Failure to carry out audits is a breach of DOC SEC34 of the EPA.

4.3 The Trusts will make appropriate provision to carry out pre-acceptance audits and to advise The Contractor of the wastes generated by the Trusts, based on the accepted 3 yearly cycle system.

4.4 All disposals must be carried out in accordance with all current relevant legislation. Evidence for this must be auditable and available on demand by the authorised Officers of the Trusts.

4.5..The Bidder is to comply with the current relevant legislation relating to the disposal of cytotoxic and other drugs and part or whole limbs.

#### 5. Waste Categories

For the purposes of this contract, a number of separate waste streams have been identified that the Bidder will be required to manage under this contract. However, this list is not exhaustive and will be subject to change throughout the contract period. Any changes and potential cost impacts are to be negotiated between the contractor and the Trusts.

The Bidder is required to provide pricing for the separate groups of waste which are listed below : (and as detailed in Documents 2 2.1 and 2.2):-

Isotopes Clinical Waste **General Municipal Waste** Recyclables Mercury Scrap Metal Glass Waste Kitchen Oil Lab Chemicals Estates Chemicals Paint IT Equipment Fridges Fluorescent tubes Furniture Mattresses Toner Carts Shredding (IT Data) Cytotoxics Drugs Food Cardboard Aerosols

Batteries Body Parts & Foetal Tissue X-ray Films

# 6 Specification Requirements

#### 6.1 Bedford Hospital NHS Trust, Luton and Dunstable University Hospital and Milton Keynes University NHS Foundation Trust

As each Trust functions independently, the individual requirements of each Trust are detailed in the following section.

- 6.2 The Bidder is required to provide a Total Waste Management service to the locations and at the irequencies specified in Documents 2 (Luton & Dunstable Hospital NHS Trust), Document 2.1 (Bedford Hospital NHS Trust) and Document 2.2 (Milton Keynes University NHS Foundation Trust)
- 6.3 The Trusts requires the Bidder to provide new compliant waste containers, including containers for recyclables, as defined by legislation or to be agreed with the Trusts.
- 6.4 Segregated waste will be delivered by Trust staff to central locations ready for collection.

Not used

6.6 The Trust requires the Bidder to provide new compliant waste containers appropriate to the relevant waste streams for each site at the agreed collection points in accordance with the needs of each location as detailed Documents 2 (Luton & Dunstable Hospital NHS Trust), Document 2.1 (Bedford Hospital NHS Trust) and Document 2.2 (Milton Keynes University NHS Foundation Trust)

. The containers at each site must be located in secured areas, or be made secure by other means, to ensure non-movement and the avoidance of consequential damage. Securing methods and arrangements will be subject to the Trust's permission and agreement.

6.7 The container sizes, quantities and collection frequencies detailed in Documents 2 (Luton & Dunstable Hospital NHS Trust), Document 2.1 (Bedford Hospital NHS Trust) and Document 2.2 (Milton Keynes University NHS Foundation Trust) are provided as guidance. The Bidder will be required to submit an assessment and proposals as part of the Tender.

# 7 Trust Container Requirements (external storage containers)

7.1 Containers supplied by the Contractor to the Contract must comply with U.N requirements and the bidder is required to provide details on the containers they propose to use and the markings on them?

Yellow Clinical waste for incineration yellow containers (bags or sharps boxes) to be used. in accordance with HTM discussion will ensue with the successful Bidder as to the benefit of looking at orange external bins.

The Trusts are aware that circa 80% of healthcare waste arising will be classified as offensive/hygiene ('tiger bag') waste, and that the majority of the remaining wastes will be in the form of sharps, anatomical and medicinal wastes (all for disposal by incineration).

Black Domestic municipal waste

Recyclables: Proposed colour to be discussed and agreed with Trusts

7.2 The Trusts will be responsible for All clinical waste bags, sharps bins and WIVA containers these to be sealed with a numbered tag or label for identification purposes. Tags/seals to be provided by the Trusts

# 8 Storage of Waste

**Clinical Waste** 

- 8.1 The Bidder is required to provide new compliant, serviceable, clean, individually numbered, lockable and wheeled (where appropriate) containers at <u>all times</u> for all areas. The purpose is to store bagged clinical waste, sharps containers. and special categories of waste. e.g. clinical, sharps, batteries, food, lamps and neon lights, pharmaceutical, cytotoxic, paints and oils, certain categories of special waste such as chemicals, old IT equipment a complete list of waste generated from each site will be made available.
- 8.2 The containers, subject to the approval of the Trust's authorised officer, shall minimise the handling of waste and be compatible with United Nations design and construction specifications and will be Approved by the Competent Authority meeting the Packing Instruction 621 standard). The containers shall be compatible with the Trust's and the Bidder's transportation systems. The Bidder shall fully describe, at the time of tendering, the type, size and estimated number of containers to be provided on the Trust's sites to store waste awaiting collection.
- 8.3 Containers that become unsuitable for continued use through wear, vandalism, loss or any other reason shall be replaced as necessary at the Bidder's expense. The containers will remain the property of, and be maintained by, the Bidder throughout the contract. The containers must be promptly removed from the Trust's sites on the expiry or termination of the contract.
- 8.4 The Bidder shall ensure that there are compliant, new, serviceable and sufficient containers to meet the requirements of the collection of clinical waste as defined by their schedule.

- 8.5 Bidders will be required to provide compliant, serviceable containers in excess of normal requirements to accommodate emergency overflow of clinical waste. <u>Bidders will be required</u> to submit their contingency plans with their submission for all aspects of this contract including the disruption of collection and delivery of bins to site.
- 8.6 The container shall have no rough or inaccessible surfaces, to ensure total internal and external decontamination when cleansed. The container should withstand frequent decontamination without deterioration in quality and not be liable to corrosion.
- 8.7 The Bidder shall be responsible for the cleaning and decontamination of the external containers. Evidence to support cleaning methods shall be provided as part of the bid, and Bidders will be required to ensure that all bins delivered to Trusts are clean. The Bidder shall include full details of the proposed method of decontamination, which shall comply with the Environment Agency standards..
- 8.8 Each container must be uniquely identified by a number/code, as part of the Bidder's recording system.
- 8.9 The Bidder is to provide adequate site-specific level hooks, towing bars etc. where applicable to enable the containers to be towed. The Bidder will also be required to provide prompt replacements as required throughout the contract, due to normal wear and tear. The cost is to be included in the contract price.
- 8.10 The Bidder is to provide a sufficient quantity of container keys, to be agreed with the authorised officers, and all replacement keys required for the duration of the contract. The cost is to be included in the contract price.
- 8.11 Wheeled Containers/Carts will move freely without undue noise whilst in transportation.

# 9 Collection of Clinical Waste

- 9.1 Bedford Hospital NHS Trust, Luton and Dunstable University Hospital and Milton Keynes University NHS Foundation Trust shall provide a central collection area at each location. The Bidder shall be required to collect full containers and replace them with bacterially cleansed empty and serviceable containers in accordance with a schedule agreed with each of the Authorised Persons of the Trusts.
- 9.2 The clinical waste will be delivered to the agreed collection/storage areas on each site by the user in accordance with the schedule provided by the Bidder. The schedule, to be agreed by each Trust, shall reflect the hours of business and needs of the individual Trust.
- 9.3 The Bidder shall identify the number of sufficient containers to be supplied, to be agreed with each Trust prior to the commencement of the contract and identify the size of the containers to be deployed.
- 9.4 All containers are to be numbered in order that the exact quantities of clinical waste generated can be reported to each trust on a monthly basis.

- 9.5 The Bidder shall fully describe how their disinfection and decontamination process would minimise cross infection.
- 9.6 The Bidder to ensure all collection points are clean and tidy following collections.

### 10 Recording of Waste Collection and Disposal

- 10.1 Environmental Protection Act s34 Duty of Care Practice
- 10.2 The weight of each consignment must be established by the use of a calibrated weighbridge, weights and measured endorsed on delivery to the waste facility.
- 10.3 Pre acceptance audits. The EA imposed legal requirements in environmental permits for disposal sites to ensure that audits of clinical waste are undertaken before it can be accepted. Failure to carry out audits is a breach of DOC SEC34 of the EPA.

#### 10.4

The Trusts will make appropriate provision to carry out pre-acceptance audits and to advise the contractor of the wastes generated by the Trusts, based on the accepted 3 yearly cycle system.

After the delivery of each load, the operator of the waste disposal plant/facility shall issue to the contractor a receipt recording the time, date and disposal method of the load and the weight of the individual containers. A copy of the previous month's receipts shall be forwarded together with the monthly invoices to the Trust's representative.

10.5 All consignment and receipt notes shall be uniquely numbered.

10.5.1The Bidder shall provide itemised details of disposal costs for each waste stream, with documented evidence of weights disposed (weighbridge tonnage) and the location of final disposal. The monthly invoice must also be supported by any sub contracted service costs and a cover sheet itemising all costs incurred in the monthly invoice.

# 11

#### Transportation of Waste

- 11.1 All vehicles used for providing the services are to be road worthy in accordance with the Road Traffic Act 1988 and, as appropriate, be properly licensed by the Local Authority and, where appropriate, be of a type that conforms to the Motor Vehicles (Construction and Use) Regulations.
- 11.2 Vehicles must be maintained to a high standard of reliability and road-worthiness and will be subject to inspection by the Trust(s) Authorised Person at any reasonable time and may (but not unreasonably or veraciously) instruct the contractor not to use the said vehicles in the provision of the services.
- 11.3 The interior and exterior of all vehicles must be kept clean and tidy.

- 11.4 The Bidder will be required to demonstrate that he can provide adequate cover for the nonavailability of vehicles for any reason.
- 11.5 The vehicles shall at all times, at the expense of the contractor, be appropriately licensed and insured.
- 11.6 The Bidder shall provide evidence of insurance and breakdown cover for all vehicles and such evidence must be provided to the authorised officer on demand.
- 11.7 The Bidder shall provide evidence of current registration with the appropriate authority as a waste carrier (The Trusts are aware that the Registration authorises the Transport of waste not both transport and disposal of clinical waste).
- 11.8 The Bidder will be required to demonstrate steps taken to achieve lower fleet emissions.
- 11.9 All drivers will carry with them at all times when engaged on the contract, Written Operating Procedures, ADR Vocational Training Certificate for at least UN Classes 6.1 & 6.2. In addition they shall also carry Photographic Identification, Transport / Waste Consignment Note and ADR Instructions in Writing in case of emergency.
- 11.1 Any vehicles engaged in BULK collections shall be "Specialised Vehicles" as required by the current edition of ADR and must comply with the specification for such vehicles as described by HSE. This will include contracted and sub contracted vehicles.
- 11.2 Vehicles shall be equipped with all Regulatory, safety, emergency and miscellaneous equipment as prescribed by the current edition of ADR. Vehicles shall also be marked with ADR specified warning devices such as marker boards or hazard warning panels as appropriate. Vehicles will be subject to inspection at any reasonable time by the Trusts or their Appointed adviser, who may (but not unreasonably or vexatious) instruct the contractor not to use the said vehicles in the provision of the services until non-compliances are rectified.
- 11.3 All drivers shall take reasonable measures to protect themselves and other individuals from hazards related to their activities. They shall not restrict access to or from buildings, emergency exits or patient delivery areas. Appropriate PPE must also be worn by the driver when working on the Trusts sites and due diligence must be exercised especially when working in public access areas.

# 12 Treatment and Disposal of Clinical waste

12.1 Should the Bidder make alternative arrangements for the disposal of the clinical waste, the Nominated Officer within the affected Trust must be notified in writing prior to any change. The contractor must inform the respective Trusts of any closure of plant and have written contingency arrangements in place should incinerators are off-line for maintenance or closed due to an emergency failure. In the event that the Bidder wishes to utilise alternative site(s)/methods the Trusts **must be** consulted in advance and agreement obtained. This prior notification must be received at least twenty eight days before planned changes to the disposal of the Trusts' waste.

- 12.2 The Trusts require at least annual access to visit the specified disposal site(s) or transfer stations in accordance with their "Duty of Care" responsibilities under the Environmental Protection Act 1990.
- 12.3 The Bidder shall provide written confirmation that any designated waste disposal facility(ies) and contingency facility(ies) named within this document has the appropriate permit issued in accordance with the Environmental Permitting (England & Wales) Regulations 2016
- 12.4 In the event of waste plant failure, the Bidder shall provide clear detailed contingency plans. The Bidder will be expected to continue to fulfil its obligations to the Trusts in such circumstances.

# Offensive (Non-Infectious) Hygiene Waste (Tiger Bags) - Permitted Landfill or other suitable /agreed method

Examples include:

- Soiled Nappies
- Incontinence pads
- Contaminated gowns
- Hygiene wipes
- PPE
- Sanitary Waste
- Sputum bowls

#### Infectious Waste (Orange bags – alternative treatment)

Examples include:

- Infectious body fluids. Cannot be disposed of in liquid form Must be gelled or absorbed
- Infectious Human waste
- Infectious soiled dressings

\*Orange bags are for the containment of <u>infectious</u> wastes suitable for alternative treatment. Yellow bags are for infectious (incineration only) wastes, typically those also contaminated with pharmaceutical or chemical contamination and/or high risk pathogens.

# 13 Disposal of Domestic Municipal Waste

- 13.1 In accordance with existing relevant legislation, Domestic Municipal Waste should be disposed of at permitted waste disposal site(s) and/or transfer station(s).
- 13.2 The Trusts reserves the right to visit the specified site(s) in accordance with its "Duty of Care" responsibilities under the Environmental Protection Act 1990.
- 13.3 The Trusts must be advised of the locations of the proposed waste disposal site(s) and/or transfer station(s) and any subsequent changes during the contract period must be notified in writing in advance to the Trusts.

# 14 Recycling

- 14.1 The Bidder is required to provide additional proposals which will optimise the level of recycling currently in place in the respective Trusts and/or opportunities to minimise waste as an essential component of this contract.
- 14.2 The transportation of unsegregated waste directly to landfill, incineration plant or other immediate disposal will be deemed as unacceptable to the Trusts. There is a strong expectation that the Bidder will attempt to recover as much as is reasonably practicable, either through on-site segregation, materials reclamation facility route or alternative procedures.
- 14.3 The Trusts reserve the right to visit the specified site(s) in accordance with their "Duty of Care" responsibilities under the Environmental Protection Act 1990.
- 14.4 The Trusts must be advised of the locations of the proposed processing site(s) and/or transfer station(s). Any subsequent changes during the contract period must be notified in writing in advance to the Trusts.

#### 15. Site Visits

- 15.1 The Trusts reserve(s) the right to visit the specified site(s) in accordance with its "Duty of Care" responsibilities under the Environmental Protection Act 1990.
- 15.2 The Trusts must be advised of the locations of the proposed waste transfer station(s) and treatment and disposal site(s). Any subsequent changes during the contract period must be notified in writing in advance to the Trusts.

#### 16 Noise Control

- 16.1 The Bidder shall ensure that all measures are taken to control the noise levels produced by his operations on site required under or by virtue of any enactment, regulation or Codes of Practice or by the working rules of any industry.
- 16.2 The Bidder's attention is drawn in particular to the Statutory Nuisance provisions in the Environmental Protection Act 1990 and any Regulation made or Codes of Practice approved thereunder.
- 16.3 The Bidder is to note that they will be working in a healthcare environment. All noise levels are to be kept to a minimum.

# 17 Security

17.1 The Bidder shall be responsible for the security of all goods and equipment used by the Bidder in or about the provision of the services provided. The Bidder has a duty of care to ensure that Trust security and assets are not compromised at any time during the provision of the service.

#### 18 Duty of Care

18.1 To ensure that the Trusts' Duty of Care in respect of waste is adequately discharged, the Bidder will be required to:

- i) Visit the sites, prior to tendering, in order to establish the suitability of their proposed arrangements for the removal of waste.
- ii) Provide comprehensive written documentation relating to all aspects of the total waste management contract.
- iii) Provide a fully detailed audit trail relating to the collection of all waste streams.
- iv) Provide evidence of weighbridge facilities to be used to service the contract.
- v) Produce a complete procedure that covers all the requirements of the Environmental Protection Act, including Code of Practice on Duty of Care, COSHH and the requirements of the Health and Safety at Work etc. Act. To include formal Risk Assessment documentation.

# Adherence to Duty of Care principles will be a continuing process throughout the duration of the contract.

#### 19 Bidder's Staff

- 19.1 The Bidder shall ensure that every person employed by the Bidder and/or sub-contractor in and about the provision of the services is at all times competently and sufficiently trained by having participated in a formal training programme prior to commencing work. Details of training records should be available as requested by the Trusts.
- 19.2 Staff appointed by the Bidder and/or sub-contractor must be aware of all relevant rules and procedures concerning Health and Safety at Work and the recording of all accidents and untoward occurrences involving waste disposal procedures from the Trusts' sites.

Reportable incidences, i.e. RIDDOR, must be reported on the appropriate Accident/Incident Form and copies forwarded to the authorised officers for the Trusts.

- 19.3 The Bidder's staff shall be required to carry a form of photographic identification for any period during which they are working on the Trusts' premises.
- 19.4 The Bidder shall provide for their staff at all times while on the Trusts' premises to be properly and presentably dressed in appropriate protective uniforms or work wear. The Trusts expect the highest standards of personal hygiene, courtesy and consideration from all staff at all times.
- 19.5 The Bidder shall prohibit their staff from smoking on Trusts property.

- 19.6 All contracted staff attending sites in performance of their duties under this contract must hold a valid current CRB, ADR Vocational Training Certificate where required and current driving licence, which should be made available to the Trust if reasonably requested.
- 19.7 The Bidder will provide the services of a suitably qualified named Manager to liaise and advise with the Trusts authorised persons to attend quarterly meetings, review and agree contract performance. This agreed provision will cover a major incident, out of hours, bank holidays and weekend point of contact.
- 19.8 The Trusts reserves the right to request the removal of staff who fail to carry out the service to the standards required by the Trusts in section 19 (Bidder's Staff).
- 19.9 The Bidder shall fulfil the requirements of the contract with a minimum of disruption. Specific attention should be drawn to the following:
  - Not convey any articles to or from a patient or have any dealing with any patient unless so requested by the Trust authorised officer. (applicable only in community settings)
  - b) Not to trespass on Trust property but confine themselves strictly to the locality of their work.
  - c) The Bidder's attention is drawn to the provisions of the Mental Health Act 1983 which, lays down penalties to which persons employed in Mental Health Hospitals are liable upon conviction for misconduct with patients. A copy of the Act may be seen in the office of the Unit Manager and Bidders are reminded that ignorance of the law is not regarded as a defence in the Courts.
  - d) The Bidder and relevant staff employed on this contract must at all times be mindful of the need to respect patient confidentiality, and should not interact verbally or physically with patients.
- <sup>19.10</sup> The Bidder shall be liable for both authorised and unauthorised acts of his employees both inside and outside the course of their employment whilst they are on the Trusts' premises.
- <sup>19.11</sup> The Bidder shall ensure that:
  - a) Every person newly recruited to be employed by the Bidder and/or sub-contractor in and about the provision of the services shall, at the Bidder's expense, at the commencement of the contract period or that person's employment (whichever shall be the latter) be medically screened and appropriately advised of the risks in handling hazardous wastes. A copy of which shall be made available to the Trusts' Occupational Health Services.
  - b) Any employee shall be excluded from the site when suffering from any notifiable infectious or communicable disease.
  - c) Bidder staff supplying services to the Trust should not be accompanied on to Trust sites by friends, family or any other unauthorised persons.

<sup>19.12</sup> In the event of Bidder's staff who have, or who may have, access to the Trusts sites during the course of the contract being criminally prosecuted for a serious offence (as defined in the Police and Criminal Evidence Act 1984), the contractor must immediately supply the authorised officer with a full report of the circumstances and, ultimately, of the outcome of any judicial procedures.

# 20 Monitoring of Contract

- 20.1 The Bidder (designated contracts manager) and the authorising officers of the Trusts will be responsible for monitoring the quality and effectiveness of the service. Bidders should submit with their tender a statement on how these standards will be achieved and monitored in the form of Key Performance Indicators (KPIs). This performance regime will be agreed between the successful Bidder and the Trusts. The aim will be to develop and agree KPIs which are commercially sensitive and pragmatic.
- 20.2 The Trusts, in accordance with their Duty of Care principles, will develop the above formal monitoring system with the Bidder, to commence at the start of the contract and be based on a continuous assessment process throughout the life of the contract.
- 20.3 The Trusts reserve the right to inspect, with or without prior notice, all records relating to the performance of the contract.
- 20.4 The Trusts reserves the right to visit any specified holding/waste disposal site during the contract period.
- 20.5 The named Contracts Manager will be the primary point of contact in relation to the contract for routine day-to- day issues.

#### 21 Quality Assurance

21.1 The Bidder shall provide details of the quality assurance system operated by their company for the provision of all services required as part of this contract.

### 22 Service Variation

- 22.1 Variations in service requirements will be notified to the Bidder as and when required.
- 22.2 The period of notice for variations will be subject to individual service criteria.

# Luton and Dunstable University Hospital Location and Collection Requirements

Document 2							
TYPE OF	QUANTITY OF	SIZE OF	COLLECTION TIMES	COLLEC	COLLECTION FREQUENCY		
WASTE/CATEGORY	BINS	BINS	COLLECTION TIMES	DAILY	WEEKLY	ONE OFF	
CLINICAL WASTE The Luton & Dunstable Hospital Trust LU4 0DZ		770 litre	24 Hour				
CLINICAL WASTE The Limb Fitting Centre Lewsey road. LU4 0DZ		770 litre	08.00-16.00				
CLINICAL WASTE The Breast Screening Centre Lewsey road. LU4 0DY		770 litre	08.00-16.00				
CLINICAL WASTE 39 Castle Street, Luton, Beds. LU1 3AG		770 litre	08.00-16.00				
GENERAL		35cy Packer bin	24 Hour		ired/ to be adv ed within 24 h		
MUNICIPAL WASTE		40cy roll- on bin	24 Hour		ired/ to be adv ed within 24 h		
Recyclables		ТВА	24 hour		ТВА		

Mercury	4	25lbs tubs	08.00-16.00	"as ree	quired/ to be a	dvised"	
TYPE OF	QUANTITY OF	SIZE OF		COLLE	CTION FREQ	UENCY	
WASTE/CATEGORY	BINS	BINS	COLLECTION TIMES	DAILY WEEKLY		ONE OFF	
Scrap Metal	1	16 Yard Container	08.00 – 16.00	"as required/ to be advised"			
Glass	ТВА	TBA	08.00-16.00	"as re	quired/ to be a	dvised"	
Waste Kitchen Oil	as required	Oil Drums	08.00 – 16.00	"as ree	"as required/ to be advised"		
Lab Chemicals	as required	as required	08.00 – 16.00	"as required/ to be advised"			
Estates Chemicals	as required	as required	08.00 – 16.00	"as ree	quired/ to be a	dvised"	
Paint	as required	as required	08.00 – 16.00	"as re	quired/ to be a	dvised"	
I.T. Equipment	as required	as required	08.00-16.00	"as re	quired/ to be a	dvised"	
Fridges	as required	as required	08.00 – 16.00	"as ree	"as required/ to be advised"		
Fluorescent Tubes	as required	as required	08.00 – 16.00	"as required/ to be advised"			
Furniture	1	35cy (walk- in) skip	08.00 – 16.00	"as ree	quired/ to be a	dvised"	

Mattresses	ТВА	ТВА	19.00 – 21.00	"as reo	"as required/ to be advised"		
TYPE OF	QUANTITY OF	SIZE OF		COLLECTION FREQUENCY		UENCY	
WASTE/CATEGORY	BINS	BINS	COLLECTION TIMES	DAILY	WEEKLY	ONE OFF	
Toner Cart's	as required	as required	08.00-16.00	"as reo	quired/ to be ad	dvised"	
Shredding (IT Data)	as required	as required	08.00-16.00	"as reo	"as required/ to be advised"		
Cytotoxic	25	ТВА	08.00 – 16.00	"as required/ to be advised"			
Drugs & Special Waste	25	50 litre Seal-able drums	08.00-16.00	"as rec	quired/ to be ad	dvised"	
Food	12	Wheelie-bin	08.00-16.00	"as reo	quired/ to be ad	dvised"	
Cardboard	ТВА	TBA	08.00-16.00	"as reo	quired/ to be ad	dvised"	
Aerosols	ТВА	ТВА	08.00-16.00	"as reo	"as required/ to be advised"		
Batteries	ТВА	ТВА	08.00-16.00	"as required/ to be advised"			
Body Parts & Foetal Tissue	TBA	TBA	08.00-16.00	"as ree	quired/ to be ad	dvised"	

X-Ray Films	ТВА	ТВА	08.00-16.00	"as required/ to be advised"
Isotopes	ТВА	ТВА	08.00-16.00	"as required/ to be advised"

# Bedford Hospital NHS Trust – Location and Collection Requirements

Document 2.1

TYPE OF	QUANTITY OF BINS ON SITE	SIZE OF	COLLECTION TIMES	COLLEC		ENCY
WASTE/CATEGORY	DINS ON SITE	BINS	COLLECTION TIMES	DAILY	WEEKLY	ONE OFF
CLINICAL WASTE				$\checkmark$		
Bedford Hospital South Wing, Kempston Road, Bedford MK42 9DJ	30-40	770litre	24 hour			
Gilbert Hitchcock House, 21 Kmbolton Road, MK40 2AW	2	770litre	24 hour			
Archer Unit North Wing, 3 Kimbolton Road, Bedford MK40 2NT	2	To be advised	24 hour			
GENERAL MUNICIPAL WASTE	1	35 yard compactor	24 hour	X 1 per 10 days on agreed schedule week	N/A	N/A
SPECIAL WASTE (CATEGORIES LISTED)						

Mercury	The trust has only small quantities still in use and therefore the requirement will be small		08.00-16.00	"as required/ to be advised"		advised"
TYPE OF WASTE/CATEGORY	QUANTITY OF BINS	SIZE OF BINS	COLLECTION TIMES	COLLECTION FREQUENCY		
				DAILY	WEEKLY	ONE OFF
Scrap Metal	1	16 Yard Container	08.00 – 16.00	"as required/ to be advised"		advised"
Glass	3	Bottle Bank	08.00-16.00	"as required/ to be advised"		advised"
Waste Kitchen Oil	as required	Oil Drums	08.00 – 16.00	"as re	quired/ to be a	advised"
Other Waste oil	As required	Oil Drums	08.00 – 16.00	"as re	quired/ to be a	advised"
Lab Chemicals	as required	as required	08.00 – 16.00	"as re	quired/ to be a	advised"
Estates Chemicals	ТВА	as required	08.00 – 16.00	"as required/ to be advised"		advised"
Paint	TBA	as required	08.00 – 16.00	"as re	quired/ to be a	advised"
Rags	ТВА	As required	08.00 – 16.00	"as re	quired/ to be a	advised"

I.T. Equipment	as required	as required	08.00-16.00	"as required/ to be advised"		
Fridges	n/a	n/a	08.00 – 16.00	"as re	"as required/ to be advised"	
Flour Tubes	n/a	n/a	08.00 – 16.00	"as re	quired/ to be a	dvised"
TYPE OF WASTE/CATEGORY	QUANTITY OF BINS	SIZE OF	COLLECTION TIMES	COLLE	CTION FREQ	UENCY
WASTE/CATEGORT :	BINS	BINS	COLLECTION TIMES	DAILY	WEEKLY	ONE OFF
Furniture	1	16 yd skip	08.00 – 16.00	"as re	quired/ to be a	dvised"
Mattresses	ТВА	ТВ	19.00 – 21.00	"as re	"as required/ to be advised"	
Recycling Waste		35 YD compactor	08.00-16.00	"as re	quired/ to be a	dvised"
Cytotoxic	10	5 litre seal- able drums	08.00 – 16.00		quired/ to be a At least monthl	
Drugs & Special Waste	10	50 litre Seal- able drums	08.00-16.00	"as re	quired/ to be a	dvised"
Food	5	1100 ltrs	08.00-16.00	"as required/ to be advised"		
Aerosols	ТВА	ТВА	08.00-16.00	"as required/ to be advised"		
Batteries	ТВА	ТВА	08.00-16.00	"as re	quired/ to be a	dvised"

Body Parts & Foetal Tissue	ТВА	ТВА	08.00-16.00	"as required/ to be advised"
X-Ray Films	ТВА	ТВА	08.00-16.00	"as required/ to be advised"
Isotopes	ТВА	ТВА	08.00-16.00	"as required/ to be advised"

# Milton Keynes University NHS Foundation Trust – Location and Collection Requirements

Document 2.2

TYPE OF	QUANTITY OF	SIZE OF	COLLECTION TIMES	COLLECTION F	REQUENCY	
WASTE/CATEGORY	BINS	BINS	COLLECTION TIMES	DAILY	WEEKLY	ONE OFF
CLINICAL WASTE 18-01-03 Yellow Bag Waste	20	770 litre	08.00 16.00 Mon - Fri	Yes		
CLINICAL WASTE 18-01-03 Orange bag Waste	75	770 litre	08.00 16.00 Mon - Fri	Yes		
CLINICAL WASTE 18-01-08 Cytotoxic	1	770 litre	08.00 16.00 Mon - Fri		Yes	
CLINICAL WASTE 18-01-09 Pharmacy	1	770 litre	08.00 16.00 Mon - Fri		Yes	
GENERAL	N/A	N/A	N/A	N/A		
MUNICIPAL WASTE	N/A	N/A	N/A	N/A		
Recyclables						
Mercury	4	25lbs tubs	08.00-16.00	"as required/ to I	be advised"	

TYPE OF	QUANTITY OF	SIZE OF		COLLECTION FREQUENCY		
WASTE/CATEGORY	BINS	BINS	COLLECTION TIMES			ONE OFF
Scrap Metal	1	40 Yard Roll-on Roll- off	08.00 – 16.00	"as required/ to	be advised"	
Glass				"as required/ to	be advised"	
Waste Kitchen Oil	N/A	N/A	N/A	N/A		
Lab Chemicals	1	50 ltr	08.00 – 16.00	"as required/ to be advised"		
Estates Chemicals	as required	as required	08.00 – 16.00	"as required/ to be advised"		
Paint	as required	as required	08.00 – 16.00	"as required/ to	be advised"	
I.T. Equipment	as required	as required	08.00-16.00	"as required/ to	be advised"	
Fridges	as required	as required	08.00 – 16.00	"as required/ to	be advised"	
Fluorescent Tubes (Crushed Lamp Glass)	as required	as required	08.00 – 16.00	"as required/ to be advised"		
Other Bulk Waste – Wood, Plastics etc	1	40 Yard Roll-on Roll- off	08.00 – 16.00	"as required/ to be advised"		
Mattresses	ТВА	ТВА	19.00 – 21.00	"as required/ to	be advised"	

	QUANTITY OF	0.75 0.5		COLLECTION	FREQUENCY	
TYPE OF WASTE/CATEGORY	BINS	SIZE OF BINS	COLLECTION TIMES	DAILY	WEEKLY	ONE OFF
Toner Cart's	as required	as required	08.00-16.00	"as required/ to	be advised"	
Shredding Paper	130	240 ltr Secure Wheelie Bin	08.00-16.00	2 weekly		
Cytotoxic – (see Clinical waste Section)	N/A	N/A	N/A	N/A		
Drugs	N/A	N/A	N/A	N/A		
Food	4	240 litre Wheelie-bin	08.00-16.00	"as required/ to be advised"		
Cardboard	N/A	N/A	N/A	N/A		
Aerosols	ТВА	ТВА	08.00-16.00	"as required/ to	be advised"	
Batteries	ТВА	ТВА	08.00-16.00	"as required/ to	be advised"	
Body Parts & Foetal Tissue - (see Clinical Waste Section)	N/A	N/A	N/A	N/A		
X-Ray Films	ТВА	ТВА	08.00-16.00	"as required/ to be advised"		
Isotopes	N/A	N/A	N/A	N/A		

# Annual Weight of Waste by Trust periods 2015-2016 and 1<sup>st</sup> April 2016 to December 2016

# See hyperlink below

Copy of Consortium Annual Waste Figure 2010 Bedford and Luton.pdf

# Document 4 Offer Schedule

Having examined the Invitation to Offer and its accompany documents and being fully satisfied as to my/our abilities and experience in all respects in all respects to satisfy the requirements of the Conditions of Offer and the Draft Contract I/We of:

Company Name:		
Registered Address:		

Hereby offer, subject to the Conditions of Offer, to provide upon the Terms and Conditions of the Draft Contract the services specified in Document 3 at the following fixed cost (exclusive of VAT) for the period of 18 months from the commencement of the Contract.

# A. Clinical/Infectious/Non Infectious Waste

Waste Stream	Unit of collection (i.e. skip, container, tonnage, bale, weight etc)	Cost (net of vat)
Clinical waste –		
alternative treatment		
Clinical waste – infectious		
incineration only		
Non Infectious		
Tiger Bag Waste		
Anatomical waste		
Cytotoxic		
Pharmacy		
Hazardous (amalgam)		

# Clinical Waste: Luton & Dunstable Hospital NHS Trust

Waste Stream	Unit of collection (i.e. skip, container, tonnage, bale, weigh etc)	Cost (net of vat) nt
Clinical waste –		
alternative treatment		
Clinical waste – infectious		
incineration only		
Non Infectious		

Tiger Bag Waste	
Anatomical waste	
Cytotoxic	
Pharmacy	
Hazardous (amalgam)	

# **Clinical Waste: Bedford Hospital NHS Trust**

Waste Stream	Unit of collection (i.e. skip, container, tonnage, bale, weight etc)	Cost (net of vat)
Clinical waste –		
alternative treatment		
Clinical waste – infectious		
incineration only		
Non Infectious		
Tiger Bag Waste		
Anatomical waste		
Cytotoxic		
Pharmacy		
Hazardous (amalgam)		

# Clinical Waste: Milton Keynes University NHS Foundation Trust

Waste Stream	Unit of collection (i.e. skip, container, tonnage, bale, weight etc)	Cost (net of vat)
Clinical waste –		
alternative treatment		
Clinical waste – infectious		
incineration only		
Non Infectious		
Tiger Bag Waste		
Anatomical waste		
Cytotoxic		
Pharmacy		
Hazardous (amalgam)		

### **B. Other Waste Streams**

#### Luton & Dunstable Hospital NHS Trust

Bulk Collection Per Tonne: £\_\_\_\_\_

Bidders should specify the particular waste stream(s), the unit of collection, and the credit/ return rate and cost to the Trust per unit of collection.

Waste Stream	Unit of collection (i.e. skip, container, tonnage, bale, weight etc)	Credit / Return rate to Trust	Cost (exclusive of Vat)
General Municipal waste			
Confidential waste – on site			
Confidential waste – off site			
WEEE Disposal			
Waste food			
Batteries			
Scrap metals			
IT equipment			
Oils			
Paints			
Recyclables)			
Furniture			
Mattresses			
Tubes			
Pallets			
Aerosols			
Fluorescent tubes			
Glass			
Isotopes			
Lab chemicals			
Mercury			
Silver recovery			
Toner cartridges			
Waste kitchen oil			
X ray films			

Removal for recycling of bulk waste, cost per tonne: £\_\_\_\_\_

Disposal of residue bulk waste, cost per tonne: £\_\_\_\_\_

Maximum tonnage (general municipal waste) to be committed to landfill during each year of the contract:

Year	Maximum Tonnage to be committed to landfill each year of the contract
2018	
2019	
2020	
2021	
2022	

#### General Municipal waste: Bedford Hospital NHS Trust

Bulk Collection Per Tonne: £\_\_\_\_\_

# **Recycling of Segregated Waste Streams**

Bidders should specify the particular waste stream(s), the unit of collection, and the credit/ return rate and cost to the Trust per unit of collection.

Waste Stream	Unit of collection (i.e. skip, container, tonnage, bale etc)	Credit / Return rate to Trust	Cost (exclusive of Vat)
General Municipal waste			
Confidential waste – on			
site			
Confidential waste – off			
site			
WEEE Disposal			
Waste food			
Batteries			
Scrap metals			
IT equipment			
Oils			
Paints			
Reusable (recycled			
waste)			
Furniture			
Mattresses			
Tubes			
Pallets			
Aerosols			
Fluorescent tubes			
Glass			
Isotopes			
Lab chemicals			
Mercury			

Silver recovery		
Toner cartridges		
Waste kitchen oils		
X ray film		

Removal for recycling of bulk waste, cost per tonne: £\_\_\_\_\_

Disposal of residue bulk waste, cost per tonne: £\_\_\_\_\_

# Maximum tonnage (General Municipal waste) to be committed to landfill during each year of the contract:

Year	Maximum Tonnage to be committed to landfill each year of the contract
2018	
2019	
2020	
2021	
2022	

# **Milton Keynes University NHS Foundation Trust**

Bulk Collection Per Tonne: £\_\_\_\_\_

# **Recycling of Segregated Waste Streams**

Bidders should specify the particular waste stream(s), the unit of collection, and the credit/ return rate and cost to the Trust per unit of collection.

Waste Stream	Unit of collection (i.e. skip, container, tonnage, bale etc)	Credit / Return rate to Trust	Cost (exclusive of Vat)
General Municipal waste	n/a	n/a	n/a+-
Confidential waste – on			
site			
Confidential waste – off			
site			
WEEE Disposal			
Waste food			
Batteries			
Scrap metals			
IT equipment			
Oils			
Paints			
Reusable (recycled			
waste)			
Furniture			

Mattresses		
Tubes		
Pallets		
Aerosols		
Fluorescent tubes		
Glass		
Isotopes		
Lab chemicals		
Mercury		
Silver recovery		
Toner cartridges		
Waste kitchen oil		
X ray films		

Removal for recycling of bulk waste, cost per tonne: £\_\_\_\_\_

Disposal of residue bulk waste, cost per tonne: £\_\_\_\_\_

Maximum tonnage (General Municipal waste) to be committed to landfill during each year of the contract:

Year	Maximum Tonnage to be committed to landfill each year of the contract
2018	
2019	
2020	
2021	
2022	

# E. Price Review (see Conditions of Offer 7.4)

Please provide a projection of costings or percentage in price differences that could result following any anticipated changes in legislation/guidance that will need to be considered during the whole life of this contract?

Category	Cost/ Percentage

# F. Other Costs/Value Added Services

Please provide details and a full offer schedule of any additional costs or value added services that will apply if you are successful. Please provide details and full costings on any proposals you would like to suggest for this contract.

If necessary complete on a separate sheet:

# **G. Environmental Credentials**

Please write a short statement (max 1 page) about your environmental credentials (e.g. environmental management systems certification, participation in carbon reduction programmes and initiatives employee awareness programmes). Please attach relevant certificates, copies of Corporate Social Responsibility reports or any other documentation that will support your statement.

#### H. Overall Price Breakdown

# (ALL TRUSTS):

Cost Heading	Cost Per Annum (£)	% of Total
Disposal		
Transport		
Labour		
Admin/profit		
Other		
(please state)		
TOTAL		100%

# The Luton & Dunstable Hospital NHS Trust

Cost Heading	Cost Per Annum (£)	% of Total
Disposal		
Transport		
Labour		
Admin/profit		
Other		
(please state)		
TOTAL		100%

# **Bedford Hospital NHS Trust**

Cost Heading	Cost Per Annum (£)	% of Total
Disposal		
Transport		
Labour		
Admin/profit		
Other		
(please state)		
TOTAL		100%

# Milton Keynes University NHS Foundation Trust

Cost Heading	Cost Per Annum (£)	% of Total
Disposal		
Transport		
Labour		
Admin/profit		
Other		
(please state)		
TOTAL		100%

If my/our Offer is accepted I/we undertake forthwith to accept official orders issued by the Authority and further undertake to provide the services in accordance with the Conditions of Offer and the conditions of Draft Contract.

Unless and until the formal official order referred to above is prepared signed by an authorised officer and received I will not commence any of the services herein specified.

Signed (1)	Status:	
Signed (2)	Status:	
For and on behalf of :	· · · · · · · · · · · · · · · · · · ·	
Date		

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#### **Certificate of Collusive Tendering**

#### To: The Luton and Dunstable University Hospital Bedford Hospital NHS Trust Milton Keynes University NHS Foundation **Trust**

The essence of selective tendering is that the Trusts shall receive bona fide competitive Tenders of all persons tendering. In recognition of this principle:-

I/we certify that this is a bona fide Tender, intended to be competitive and that I/we have not fixed or adjusted the amount of the Tender, or the rates and prices quoted by, or under, or in accordance with any agreement or arrangement with any other person.

I/we also certify that I/we have not done, and undertake that I/we will not do at any time, any of the following acts:-

a. Communicating to a person other than the person calling for these tenders the amount or approximate amount of my/our proposed Tender, (other than in confidence in order to obtain quotations necessary for the preparation of the Tender for insurance); or

b. Entering into any agreement or arrangement with any other person that he shall refrain from tendering, or as to the amount of any Tender to be submitted; or

c. Offering or agreeing to pay or give, or paying, or giving any sum of money, inducement or valuable consideration directly, or indirectly to any person for doing or having done, or causing or having caused to be done in relation to any other Tender, or proposed Tender.

Signed.(1).....

Designation.....

Signed (2).....

Designation.....

For and on behalf of
Address (Registered)

# **Canvassing Certificate**

To: The Luton and Dunstable Hospital NHS Foundation Trust Bedford Hospital NHS Trust Milton Keynes University NHS Foundation Trust

I/We certify that I/We have not canvassed or solicited any member, officer or employee of the Trusts or their representatives in connection with the award of this Tender or any other Tender or proposed award of the Tender for the supply and installation of Gamma Camera and that to the best of our knowledge and belief no person employed by me/us or acting on my/our behalf has done any such act.

I/We further hereby undertake that I/We will not in the future canvas or solicit any member, officer or employee of the Trusts in connection with this Tender or any other Tender or proposed Tender for the Equipment and that no person employed by me/us or acting on my/our behalf will do any such act.

<b>_</b>		
Signed (	1	
olgricu (		/

Designation		
Designation		
Doorgination	 	

For And On Behalf Of	

Date.....

# Form of Tender to Provide Waste Management Services

To: The Luton and Dunstable University Hospital Bedford Hospital NHS Trust Milton Keynes University NHS Foundation Trust

I/We.....

hereby offer to provide Waste Management Services as specified in the Tender at the prices shown in the Tender and in accordance with the Conditions of Contract.

Signed (1).....

Designation.....

For And On Behalf Of.....

Date.....

# **Draft Contract Agreement Form**

THIS AGREEMENT is madeday ofday of
The Luton and Dunstable University Hospital Bedford Hospital NHS Trust Milton Keynes University NHS Foundation Trust
(referred to as "the Contractor") of the other part.
WHEREAS the Trusts desires to engage the Contractor to provide certain Waste Disposal Services to the Trusts and WHEREAS the Contractor has submitted to the Trusts a Tender for the provision of such services which the Trust has accepted.
Name
Signature on behalf of the Luton and Dunstable University Hospital, Bedford Hospital NHS Trust and Milton Keynes University NHS Foundation Trust
Name
Signature
on behalf of
AS WITNESSED BY
Name
Occupation
of
Signature

# Appendix A

# Bedford Total Waste Management Consortium: Tender Evaluation Matrix

Supplier Name:

- 5 Exceptional
- 4 Good
- 3 Average
- 2 Border Line
- 1 Poor
- 0 Unacceptable/
  - No

|--|

Category	Weight	Sub Weight	Score out of 5 for sub category	Weighted Score	Overall Score for Category
Price/Running Costs	40				0
Acute		10		0	
Clinical Waste		10 10-		0	
Domestic Waste		-			
Hazardous Waste		10		0	
Transportation		10		0	
		5		0	
		5		0	
		5		0	
		5		0	
	45	5		0	•
Carbon reduction opportunities and the sustainability agenda	15				0
Against the Tructo in monting the NHS Carbon Reduction Strategy		5		0	
Assist the Trusts in meeting the NHS Carbon Reduction Strategy		5		0	
Assist in reducing and minimising waste streams				-	
Encourage/recycling, initiative proposals.		5		0	
Technical Merit/Aesthetic Features of Proposal	10				0
Understanding of the TWM concept		2.5		0	
Experience in delivering the TWM concept		2.5		0	
Relevance of ideas/innovations to the Consortium		2.5		0	
Technical quality of proposal		2.5		0	
Technical Conformity/Back Up	10	2.0			0
Understanding of current/future clinical waste legislation		2		0	
Understanding of current/future domestic waste legislation		2		0	
Understanding of current/future special waste legislation		2		0	
Understanding of service criticality of this contract to the Trusts		2		0	
Membership to accredited/relevant associations		2		0	
Services/Functional Characteristics	10				0

Outline of services to be provided to the Consortium		2	0	
Quality of additonal services to be added		2	0	
Methods of disposal/innovative technology		2	0	
Service level outline		2	0	
Contract management proposal (separate from WM)		2	0	
Quality and Audit Systems	5			0
ISO 9001 or equivalent		2	0	
ISO 14001 or equivalent		2	0	
Systems in place to manage & audit waste streams		1	0	
Site Visit	5			0
Quality of working example visited		2	0	
Relevance of visit content to the consortium		1	0	
Suitability and experience demonstrated from visit to deliver this contract for the Consortium		2	0	
Presentation	5			0
Clarity and understanding of the Consortiums requirements		1	0	
Implementation plan proposal		1	0	
Development of contract/service proposal		1	 0	
Confidence that supplier can deliver this contract and TWM concept		1	0	
Overall quality of presentation		1	 0	

TOTAL SCORE

0

# Appendix B

# Timetable for Total Waste Management Contract -

Issue OJUE Advert including SQ Draft, Contract Document (ITT)and Supplier Questionnaire (SQ)	3rd March 2017	Complete
Closing Date for Expressions of interest	3rd April	yes
Closing date for submission of SQ's	24 <sup>th</sup> April	yes
Shortlisting complete for bidders moving to dialogue phase 1	8th May to15 <sup>th</sup> May	yes
Phase 1 Dialogue	8 <sup>th</sup> May to 5 <sup>th</sup> June	19 working days
First bids and shortlist	6th June to 20 <sup>th</sup> June	11 working days
Phase 2 Dialogue	21st June to 7 <sup>th</sup> July	12 working days
2nd Bids and shortlist	8 <sup>th</sup> July to 4 <sup>th</sup> August	20 working days
Final Discussions with preferred bidder and BAFO	5 <sup>th</sup> August to 18 <sup>th</sup> August <sup>h</sup>	10 working days
Approvals process and final award	28 <sup>th</sup> August to 29 <sup>th</sup> September	25 working days
Contract Commence	1 <sup>st</sup> February 2018	

Appendix C

TUPE details To be completed

# Appendix D

**Implementation Plan** 

To be populated by bidder

# Appendix E

This contract will be subject to the NHS Standard Terms and Conditions for the Provision of Services.

**Conditions of Tender Document No. 2.doc** 

Appendix F

Supplementary Conditions of Contract as Agreed between the parties. These will have precedence over the Terms and Conditions in Appendix E

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