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A proposal to Cuckfield Parish Council for the production of a Tier 2 Environment Agency Groundwater Risk Assessment.

Address: Land adjacent Newbury Ln, Cuckfield, Haywards Heath RH17 5JZ.

Date: 27th June 2023

Reference: CDS-CC-1936

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CDS Background

CDS are the only UK Company specialising in Cemetery Management and Design who have in-house resources of qualified professionals whose collective capabilities cover over 80% of our technical professional services.

A summary of our inhouse resources is given in the table below:

Agronomy	Drainage engineering	Landscape design
CDM Co-ordinator	Environmental engineering	Land surveying
Computer aided design	Flood risk assessment	Memorial stability testing
Construction site supervision	Geotechnical engineering	Planning consultancy
Construction site setting out	GIS development	Project management
Data base development	GIS mapping field surveying	Site layout and design
Design engineering	GPS surveying	Soils engineering and soil science

Current Legislation

The most up-to-date guidance issued by the Environment Agency (EA) is provided in:

- [Groundwater protection technical guidance](#), published March 2017.
- [Protecting groundwater from human burials](#), published April 2022.
- [The Environment Agency's approach to groundwater protection](#) (February 2018 Version 1.2), which updated 'Groundwater protection: Principles and practice (GP3) (2013)';

The purpose of the published guidance is to help those operating cemeteries to understand how to manage cemeteries and burial of human and animal remains, to prevent or limit groundwater pollution.

Failure to manage and reduce any environmental risk to a minimum may result in action being taken under the Environmental Permitting (England and Wales) Regulations 2016, the Water Resources Act 1991 and the Anti-pollution Works Notice Regulations 1999.

The recently updated guidance, 'Protecting groundwater from human burials' has, for the first time, introduced the need for high risk cemetery sites to require an Environmental Permit to operate. This places additional financial implications on the operation of the cemetery as well as requiring the operators to ensure they meet the terms of the permit. It is therefore important that any new cemetery or extension to an existing cemetery is assessed at an early stage to understand whether the site would be liable to the new environmental permitting regulations.

Introduction

Following a request for a quotation from Samantha Heynes of Cuckfield Parish Council, The CDS Group (CDS) have the pleasure in presenting our proposal and fees for the production of a detailed Groundwater Assessment in accordance with current Environment Agency Guidance for the proposed churchyard extension site below.

Figure 1: Site Location Plan and Proposed Development Area



Groundwater Risk Assessment Background

All cemeteries are required, under current EA guidance, to consider groundwater protection. Any extension to an existing site must comply with the requirements for new cemeteries and extensions. All existing sites should have an appropriate risk assessment.

In order to establish the required scope of works (i.e. Tier 1 vs Tier 2 Assessment) CDS will undertake a brief review the proposed development to provide a preliminary risk score for the site. This in turn defines whether a Tier 1 or Tier 2 report would be required and whether or not a pollutant flux model would be necessary at the earliest stage in order to provide both a cost effective and time efficient solution.

The table below summarises the average cost, timescales and scope of works for a T1, T2 and T2 including flux model.

T1 (usually for low risk sites only)	T2 (moderate to high risk sites)	T2 including Flux Model (moderate to high risk sites)
<p>A T1 Assessment report comprises a desk top study of the site which includes the following:</p> <p>Well and borehole registration investigation. Watercourse, spring and drain mapping. Historical Map Search. Site Specific Geological Assessment. Site Specific Hydrogeological Assessment. Production of Digital Terrain Map. Risk Assessment based on burial rate and site risk score. Recommendations.</p>	<p>A T2 Assessment report comprises all of the information included in a Tier 1 report and includes the following additional work:</p> <p>Intrusive investigation by trial pit Detailed Soil Logging. Assessment of groundwater/perched water encountered on site. Refinement of Risk Assessment and Recommendations.</p>	<p>A T2 Assessment including flux model comprises all of the information included in a T2 report however it contains a detailed pollutant flux model which may be required on higher risk sites.</p> <p>By undertaking the pollutant flux model at an early stage this can save both time (up to 8 weeks) and money in comparison to submitting a T2 report to the EA who may request a flux model in their response.</p>
<p>Estimated Timescale 6 weeks from instruction</p>	<p>Estimated Timescale 6 weeks from instruction</p>	<p>Estimated Timescale 8 weeks from instruction</p>

NB. In exceptional circumstances, if the risk to groundwater is deemed sufficiently high enough, the EA may request further monitoring and groundwater sampling as part of a Tier 3 Study. The number of burials and the level of risk will determine the duration of such a study.

Fees for site visits and attending meetings outside the scope will be charged at a daily rate of £600 plus mileage.

Site Assessment

The following table summarises the site-specific information used to provide the preliminary risk score for the site:

Risk	Assessment (High, Moderate, Low)	Comment
Site Area	Low	The site area is approximately 0.71 ha in area.
Burials per Annum	--	Unknown at this stage. Burials per annum over 100 are classified as high risk.

Risk	Assessment (High, Moderate, Low)	Comment
Source Protection Zones	Low	The site is not situated within a groundwater source protection zone.
Flood Risk	Low to Moderate	The site is not situated within a flood risk zone. The central section of the site is mapped at low risk of surface water flooding, presumably due to site topography.
Superficial Aquifer	Low	The site is not mapped as being underlain by any superficial soils
Superficial Geology	High	The site is not mapped as being underlain by superficial deposits. Where there is an absence of superficial deposits, burial contaminants can migrate readily unmitigated into the underlying bedrock which therefore poses a high risk to any underlying groundwater.
Bedrock Aquifer	Moderate	The Cuckfield Stone Beds are designated as a Secondary A aquifer.
Bedrock Geology	High	The underlying Cuckfield Stone Beds (sandstone) is likely to have a high fracture conductivity and permeability is fractured dominated.
Groundwater Depth	High	Local historic boreholes indicate various water strikes within the interbedded sandstones and mudstones. A borehole located some 50m to the south of the site encountered groundwater at a depth of 1.95m bgl.
Other Risks	High	There is a stream just off the site's southwestern boundary, which will require a 30m non-burial buffer. The Cuckfield Royal Observer Corps Bunker is also located onsite, the presence of which will require a non-burial area.

In order to establish the likely EA response at the earliest stage, it should be noted that the EA will not accept a T1 audit for sites exceeding 1 hectare or where more than 30 burials are undertaken annually or where the risk is considered high.

From the results of the initial assessment detailed above the site appears to fall under a high classification due to the potential for shallow unaltered bedrock.

Site Specific Fee Proposal

Based on the preliminary risk assessment which has been identified above, we would recommend that a T2 groundwater risk assessment be carried out. However, due to the potential for shallow bedrock to be encountered on site, we would recommend that the works are split into phases to reduce the risk.

Stage 1 would be to undertake a series of trial pits across the site to determine the depth to bedrock and groundwater. If the results indicate that the site is considered unsuitable then no further work would be undertaken. However, if the depth to bedrock/groundwater is deep enough to allow burials, then we would move onto the next stage.

Stage 2 would entail the production of a detailed groundwater risk assessment report to assess the impact of proposed burials to the underlying groundwater table.

Stage 3 would be to submit the ground investigation data, Groundwater Risk Assessment and Flux Model to the EA for pre application advice to gain the view of the EA before any further works relating to land purchase or planning are considered. The outcome of this review would guide us as to whether the site is feasible to be developed.

The costs for the stages set out above would be as follows:

- Stage 1: One days intrusive investigation to assess the depth to bedrock/groundwater on site - £2,190.00 exc VAT.
- Stage 2: Production of Detailed Groundwater Risk Assessment - £2,460.00 exc VAT.
- Stage 3: Submission of reports to the Environment Agency. The EA charge £100.00 per hour for pre app advice, we would anticipate, based on a site of this size and level of risk for the EA to request somewhere in the region of 6-10 hours to review. The cost would be charged based on the hours the EA require. We have provided a rough estimate of £1,190.00 exc VAT.

If needed CDS are also able to design the layout of the proposed cemetery, including burial layout, soft and hard landscaping, and specification documents for the construction of the site. Prices for this work are available on request.

Assuming the EA do not request borehole/monitoring data, then the likely duration from order to project completion is approximately six weeks. It should be noted that the separate cost of the EA audit has been undertaken on the basis that were the EA, in the worst case to turn down the site on the grounds of environmental risk, no further works will be likely to progress unless mitigation procedures are defined and accepted. These mitigation procedures would require a separate study which would be priced on a site specific basis.

We trust that we have understood your requirements, however if you require any alterations please do not hesitate to contact us

Kind Regards

Callum Ward BSc FGS

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Cuckfield Parish Council

Project manager:

Callum Ward

Date: 27.06.2023

E-mail: callum.ward@thecdsgroup.co.uk

Quote No: CDS-CC-1936

Fee Proposal

Item Description	Quantity	Unit	Price	Total
Stage 1 - Site Investigation, Walkover Survey and Letter Report				2 190.00
Project establishment	2	pcs	75.00	150.00
Basic Utilities/Services Search (gas/electric/BT/water/sewerage)	1	pcs	200.00	200.00
Provision of tracked excavator/JCB 3CX	1	pcs	900.00	900.00
Senior Engineer to Attend site	1	day	715.00	715.00
Mileage (Car)	300	mileage	0.75	225.00
Subheading subtotal:				2 190.00
Stage 2 – Production of a detailed T2 Groundwater Risk Assessment				2 460.00
Envirocheck Modular Report	1	pcs	450.00	450.00
Provide T2 Groundwater Risk Assessment Report	18	hour	95.00	1 710.00
Directors Review	2	hour	150.00	300.00
Subheading subtotal:				2 460.00
Stage 3 - EA Liasion				1 190.00
EA Advice (figure unknown, but assumed at 10Hrs = £1000 - detailed quote required form the EA)	10	hour	100.00	1 000.00
CDS EA Liasion	2	hour	95.00	190.00
Subheading subtotal:				1 190.00
Subtotal:				5 840.00
Tax (20%):				1 168.00
Total (GBP):				7 008.00

The CDS Group - Terms and Conditions

The CDS Group
Terms and Conditions for the Supply of Services

Interpretation

In these Conditions

AGREED FEE means the charges agreed between CDS and the Client in relation to the Specified Service (Fees exceeding £10,000 will require 25% of gross upon acceptance of order)

CLIENT means the person named on the Specification Sheet for whom CDS has agreed to provide the Specified Service in accordance with these Conditions

CONTRACT means the contract for the provision of the Specified Service

DOCUMENT includes, in addition to a document in writing, any map, plan, graph, drawing or photograph, any film, negative, tape or other device embodying visual images and any disc, tape or other device embodying any other data

INPUT MATERIAL means any Documents or other materials, and any data or other information provided by the Client relating to the Specified Service

OUTPUT MATERIAL means any Documents or other materials, and any data or other information provided by CDS relating to the Specified Service

SPECIFICATION SHEET means the sheet to which these Conditions are appended

SPECIFIED SERVICE means the service relating to geophysical surveys of land to be provided by CDS for the Client and referred to in the Specification Sheet

CDS means CDS (registered in England under number 05089827) or its subsidiary as stated on the Specification Sheet

The headings in these Conditions are for convenience only and shall not affect their interpretation

Supply of the Specified Service

CDS shall provide the Specified Service to the Client subject to these Conditions. Any changes or additions to the Specified Service or these Conditions must be agreed in writing by CDS and the Client.

The Client shall allow CDS adequate access to its property at reasonable times and for so long as is necessary to enable CDS to provide the Specified Service in accordance with the Contract.

The Client shall at its own expense supply CDS with all necessary Documents or other materials, and all necessary data or other information relating to the Specified Service, within sufficient time to enable CDS to provide the Specified Service in accordance with the Contract. The Client shall ensure the accuracy of all Input Material.

CDS shall have no liability for any loss or damage, however caused, to the Input Material. All Output Material shall be at the sole risk of the Client from the time of delivery to or to the order of the Client.

The Specified Service shall be provided in accordance with the Specification Sheet subject to these Conditions.

Further details about the Specified Service, and advice or recommendations about its provision or utilisation, which are not given in CDS's brochure or other promotional literature, may be made available on written request.

CDS may correct any typographical or other errors or omissions in any brochure, promotional literature, quotation or other document relating to the provision of the Specified Service without any liability to the Client.

CDS may at any time without notifying the Client make any changes to the Specified Service which are necessary to comply with any applicable safety or other statutory requirements, or which do not materially affect the nature or quality of the Specified Service.

Charges

Subject to any special terms agreed, the Client shall pay the Agreed Fee and any additional sums which are agreed between CDS and the Client for the provision of the Specified Service or which, in CDS's sole discretion, are reasonably incurred as a result of the Client's instructions or lack of instructions, the inaccuracy of any Input Material or any other cause attributable to the Client.

All charges quoted to the Client for the provision of the Specified Service are exclusive of any Value Added Tax, for which the Client shall be additionally liable at the applicable rate from time to time.

CDS shall be entitled to invoice the Client on completion of the Specified Service.

The Agreed Fee and any additional sums payable shall be paid by the Client (together with any applicable Value Added Tax, and without any set-off or other deduction) within 14 days of the date of CDS's invoice.

If payment is not made on the due date, CDS shall be entitled, without limiting any other rights it may have, to charge interest on the outstanding amount (both before and after any judgment) at the rate of 4% above the base rate from time to time of Barclays Bank plc from the due date until the outstanding amount is paid in full.

Any Input Material or other information provided by the Client which is so designated by the Client and any Output Material shall be kept confidential by CDS, and all Output Material or other information provided by CDS which is so designated by CDS shall be kept confidential by the Client; but the foregoing shall not apply to any Documents or other materials, data or other information which are public knowledge at the time when they are so provided by either party, and shall cease to apply if at any future time they become public knowledge through no fault of the other party.

The Client warrants that any Input Material and its use by CDS for the purpose of providing the Specified Service will not infringe the copyright or other rights of any third party, and the Client shall indemnify CDS against any loss, damages, costs, expenses or other claims arising from any such infringement.

Warranties and Liability

CDS warrants to the Client that the Specified Service will be provided using reasonable care and skill and, as far as reasonably possible, in accordance with the Specification and at the intervals and within the times referred to in the Specification Sheet. Where CDS supplies in connection with the provision of the Specified Service any goods (including Output Material) supplied by a third party, CDS does not give any warranty, guarantee or other term as to their quality, fitness for purpose or otherwise, but shall, where possible, assign to the Client the benefit of any warranty, guarantee or indemnity given by the person supplying the goods to CDS.

CDS shall have no liability to the Client for any loss, damage, costs, expenses or other claims for compensation arising from any Input Material or instructions supplied by the Client which are incomplete, incorrect, inaccurate, illegible, out of sequence or in the wrong form, or arising from their late arrival or non-arrival, or any other fault of the Client.

Except in respect of death or personal injury caused by CDS's negligence, or as expressly provided in these Conditions, CDS shall not be liable to the Client by reason of any representation (unless fraudulent), or any implied warranty, condition or other term, or any duty at common law, or under the express terms of the Contract, for any loss of profit or any indirect, special or consequential loss, damage, costs, expenses or other claims (whether caused by the negligence of CDS, its servants or agents or otherwise) which arise out of or in connection with the provision of the Specified Service or their use by the Client, and the entire liability of CDS under or in connection with the Contract shall not exceed the amount of CDS's charges for the provision of the Specified Service, except as expressly provided in these Conditions.

CDS shall not be liable to the Client or be deemed to be in breach of the Contract by reason of any delay in performing, or any failure to perform, any of CDS's obligations in relation to the Specified Service, if the delay or failure was due to any cause beyond CDS's reasonable control.

Termination

Either party may (without limiting any other remedy) at any time terminate the Contract by giving written notice to the other if the other commits any breach of these Conditions and (if capable of remedy) fails to remedy the breach within 30 days after being required by written notice to do so.

Insolvency of Client

This clause applies if:

the Client makes any voluntary arrangement with its creditors or (being an individual or firm) becomes bankrupt or (being a company) becomes subject to an administration order or goes into liquidation (otherwise than for the purposes of amalgamation or reconstruction); or
an encumbrancer takes possession, or a receiver is appointed, of any of the property or assets of the Client; or

the Client ceases, or threatens to cease, to carry on business; or

CDS reasonably apprehends that any of the events mentioned above is about to occur in relation to the Client and notifies the Client accordingly.

If this clause applies then, without prejudice to any other right or remedy available to CDS, CDS shall be entitled to cancel the Contract or suspend any further provision of services under the Contract without any liability to the Client, and if the Services have been provided but not paid for the price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary.

General

These Conditions (together with the terms, if any, set out in the Specification Sheet) constitute the entire agreement between the parties, supersede any previous agreement or understanding and may not be varied except in writing between the parties. All other terms and conditions, express or implied by statute or otherwise, are excluded to the fullest extent permitted by law.

Any notice required or permitted to be given by either party to the other under these Conditions shall be in writing addressed to the other party at its registered office or principal place of business or such other address as may at the relevant time have been notified pursuant to this provision to the party giving the notice.

No failure or delay by either party in exercising any of its rights under the Contract shall be deemed to be a waiver of that right, and no waiver by either party of any breach of the Contract by the other shall be considered as a waiver of any subsequent breach of the same or any other provision.

If any provision of these Conditions is held by any competent authority to be invalid or unenforceable in whole or in part, the validity of the other provisions of these Conditions and the remainder of the provision in question shall not be affected.

Any dispute arising under or in connection with these Conditions or the provision of the Specified Service shall be referred to arbitration by a single arbitrator appointed by agreement or (in default) nominated on the application of either party by the President for the time being of Institute of Arbitrators.

English law shall apply to the Contract, and the parties agree to submit to the non-exclusive jurisdiction of the English courts.