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MILDENHALL HIGH TOWN COUNCIL

A specification for proposed construction of an extension to Thetford Road Cemetery, Mildenhall, Bury Saint Edmunds IP28 7HX.

10 JANUARY 2020 [REVISION 2, 23 AUGUST 2021]

TGMS1121.3

STATUS: TENDER SUBJECT TO PLANNING

Please note that this tender and design scheme are subject to the award of planning permission by the Local Planning Authority. No contract will be awarded without the award of planning permission.

REVISION RECORD					
Rev	**Date**	**Description**	**Prepared**	**Checked**	**Approved**
0	10-01-20	Document Creation	RE	MY	MY
1	07-02-21	Borehole and solar panel omitted, southern gate omitted, vehicle height restrictor barrier added.	RE	MY	MY
2	23-08-21	Dense macadam, bike stands, power supply to bore hole and toilet block refurbishment added.	RE		

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2. Drawing TGMS1121.1-2 Proposed Site Layout.
3. Access Audit of Mildenhall Cemetery Toilet Block, Evans Jones Limited, March 2021.
4. TGMS1121.2 Thetford Road Cemetery Extension Work Schedules 10 01 20 REV1 07 02 21.xlsx.

1. PART I: JCT 2016 MINOR WORKS BUILDING CONTRACT - PRELIMINARIES SUMMARY

1.1 PROJECT PARTICULARS

1.1.1 The Project

- Name: Thetford Road Cemetery.
- Nature: Construction of a cemetery extension.
- Location: Thetford Road Cemetery, Thetford Road, Mildenhall, Bury Saint Edmunds IP28 7HX.
- Length of contract: 12 Weeks.

1.1.2 Employer (Client)

- Name: Mildenhall High Town Council.
- Address: C/o Mark Knight (Town Manager), Mildenhall High Town Council, The Pavilion, Recreation Way, Mildenhall, Bury St Edmunds, Suffolk, IP28 7HG.
- Contact: Mark Knight
- Telephone: 01638 713493
- Email: townmanager@mildenhall-tc.gov.uk

1.1.3 Principal Contractor (CDM)

- Name: TBC
- Address:
- Contact:
- Telephone:
- E-mail:

1.1.4 Architect / Contract Administrator

- Name: TGMS.
- Address: 4 Doolittle Mill, Froghall Road, Ampthill, Bedfordshire, MK45 2ND.
- Contact: Dr Richard Earl
- Telephone: 01525 307060
- Email: richard.earl@tgms.co.uk

1.1.5 CDM Administrator

- Name: N/A
- Address:
- Contact:
- Telephone:
- Email:

1.2 FORM OF CONTRACT

The form of contract will be the Joint Contracts Tribunal Ltd Minor Works Building Contract 2016 Edition incorporating all current published amendments.

The Clauses are scheduled within this document but the Contractor must inspect the draft form for the full details of these Clauses and is to allow such sum/s as may deem necessary for carrying out the obligations and services required by the Contract.

Payment terms are amended to 30 days.

All information contained within this document is subject to the conditions of the above stated contract.

1.3 THE RECITALS

1.3.1 First Recital

The work comprises the construction of a cemetery extension and refurbishment of a toilet block.

1.3.2 Second Recital

All construction information is found in the specification section (**REF: TGMS1121.3**) and on the drawings scheduled in Table 1 below.

1.3.3 Third Recital

The Contractor is to supply the Employer with a copy of the priced Work Schedules.

1.3.4 Forth Recital

Is the Employer a 'contractor' for the purposes of CIS? **No.**

1.3.5 Sixth Recital

The Contract is not supplemented by a Framework Agreement.

1.4 THE ARTICLES

Article 2: Contract Sum: **TBC**

Article 3: ~~Architect~~/Contract Administrator: **TGMS**.

Article 4 The Principal Designer for the purposes of the CDM Regulations is the ~~Architect~~/Contract Administrator

Article 5 The Principal Contractor for the purposes of the CDM Regulations is the Contractor.

Article 7: Is dispute resolution to be by arbitration? **Yes**

1.5 CONTRACT PARTICULARS

Fourth Recital & Schedule 2

Base Date: **10 days before tender return date**

Fifth Recital

CDM Regulations **The project is not notifiable.**

Section 2.2

Works commencement date **TBC.**

Date for completion: **TBC.**

Section 2.8

Liquidated damages: **£50 per day or part thereof.**

Section 2.10

Rectification period: **12 months from the date of practical completion.**

Section 4.3 Date of first interim payments

30 days from start date.

Section 4.3 Interim payments

95% of total work value up to practical completion.

Percentage of the total amount to be paid to the contractor on or after practical completion: **97.5%.**

Section 4.8.1 Final certificate and final payment

Supply of documentation for computation of amount to be finally certified: **3 months.**

Section 4.3 and 4.8 Fluctuations provision

Schedule 2 (Fluctuations Option): **Does not apply.**

Section 5.3

Contractor's Public Liability insurance: injury to persons or property – the required level of cover is not less than **£1 million.**

Section 5.4A, 5.4B and 5.4C Insurance of the Works.

Insurance of the works: **Option A Applies**.

Percentage to cover professional fees: **15%**

Section 7.2 Settlement of Disputes – Adjudication

The Adjudicator is: **Chartered Institute of Arbitrators**

Nominating body: **Chartered Institute of Arbitrators**

Appointor of Arbitrator (and of any replacement**): President or a Vice-President of the Chartered Institute of Arbitrators.**

Attestation

Method of execution: **By Deed.**

1.6 FORM OF TENDER

PROJECT TITLE: Construction of an extension to Thetford Road Cemetery, Mildenhall.

We ..... (Tenderer's name to be entered) hereby tender and undertake to perform the whole of the works/services required in and associated with the Project for **Mildenhall High Town Council** according to the Specification, Work Schedules, Preliminaries and Drawings examined by us for the firm price sum of:

.....(pounds)

.....(pence)

(£ : p) excluding VAT.

Further we are prepared, when called upon to do so, to enter into and sign a contract, the full terms of which we have read, for the due and proper completion of the works/services.

We understand that we are tendering at our own expense and that the Client is not bound to accept the lowest or any tender and that the client reserves the right to award the contract phase by phase.

We declare that we are not party to any scheme or agreement under which:

- we inform any other person the amount of our tender; and/or
- we have fixed the amount of any tender in accordance with a price fixing arrangement.

We accept that the Client is entitled to cancel the contract and to recover from us the amount of any loss resulting from such cancellation if it is discovered that there has been any corrupt or fraudulent act or omission by us which in any way induced the Client to enter into the contract.

We declare that all goods materials and workmanship will meet the appropriate British Standard Specification or British Standard Code of Practice issued by the British Standards Institution or equivalent European standard current at the date of the contract.

We undertake in respect of all persons employed by us or with whom we sub-contract to comply with the Disability Discrimination Act 1995 and the Commission for Racial Equality's Code of Practice issued under the Race Relations Act 1976 aimed at eliminating discrimination and promoting equality of opportunity.

We undertake not to transfer, assign, or sub-let any portion of the contract nor create any lien or charge on premises, goods or equipment connected with or forming part of the contract, without the written consent of the Client or its duly authorised officer.

We agree that if, before acceptance of this tender, an error in computation of the tender is detected in the priced document submitted by us we will be given details of the error and the opportunity of confirming the total tender sum or withdrawing the tender.

We agree that the insertion by us of any qualifications to this tender or any unauthorised alterations to any of the tender documents will not affect the original text but will cause the tender to be liable to rejection.

We agree that this tender will remain open for acceptance by the Client and will not be withdrawn by us for a period of 90 days from the last date fixed for the receipt of tenders or any notified extension thereof.

We certify that this is a bona fide tender.

Tenderer's Name

.....

Address

.....

.....

.....

Telephone

.....

Facsimile

.....

Signature*

.....

Name

.....

Date

.....

Witness

.....

Name

.....

Date

.....

* Where the Tenderer is an incorporated association the Company Secretary or a duly authorised Director should sign. In the case of a partnership a Partner should sign. In the case of an individual the Proprietor should sign.

2. PART II: DESIGN SPECIFICATION

2.1 INTRODUCTION AND SITE INFORMATION

The 0.6 ha development site is located immediately to the east of the existing cemetery.

The development area comprises mown grass and the site is bounded by woodland to the south and east, Thetford Road to the north and the existing cemetery to the west.

A Tier 2 hydrological risk assessment was carried out by Cemetery Development Services in March 2015 and is appended for information.

As part of the cemetery extension construction works, there is a requirement to refurbish the toilet block in the adjoining existing cemetery in order to make it accessible to all users.

2.1.1 Site location and access

The site can be accessed via the existing cemetery however the development works include the construction of a new, dedicated entrance from Thetford Road and so it is anticipated that these works will be carried out at an early stage to negate the need to use the existing cemetery. The grid reference for the development area is approximately: OSGB 572343, 274875. The nearest postcode is IP28 7HX.

2.1.2 Arrangements to visit the site

To arrange a site visit, please contact

- Contact: Mark Knight (Town Manager)
- Telephone: 01638 713493
- Email: townmanager@mildenhall-tc.gov.uk

2.2 GENERAL SCOPE

The work proposed in this specification shall be as follows:

- Removal of a minimum of two trees, and a maximum of four trees from along Thetford Road (disposal of arisings off-site).
- Removal of the existing fence parallel with Thetford Road to disposal off-site
- Creation of a new dedicated entrance from Thetford Road.
- Installation of a vehicle height restrictor barrier.
- Removal of a section of hedge near the existing cremated remains plots.
- Removal of vegetation using a total herbicide.
- Installation of water standpipes.
- Installation of a car park, roads and paths.
- Installation of fold-down bollards.
- Line marking of car park bays.
- Erection of new timber fence.
- Installation of a post and chain fence.
- Installation of a new timber gate near the existing cremated remains plots.
- Establishment of hedges.
- Cultivations and leveling of the site to create an even surface.
- Grass establishment (fertilising, seeding and mowing).
- Installation of bike stands.
- Installation of a power supply and submersible pump for the existing borehole.
- Refurbishment of the toilet block to include the following:
    1. Convert a part into an accessible cubicle.
    2. Increase external path from 900 mm to >1.2 m.
    3. Convert existing shelter into accessible cubicle.
    4. Create gently sloping (,1:21) approach to accessible cubicle.
    5. Improve contrast of sanitaryware and fittings.
    6. Replace knob taps with lever taps.
    7. Improve contrast of cubicle door openings.
- Reinstatement after completion of works.

For the proposed block refurbishment works, please refer to Access Audit of Mildenhall Cemetery Toilet Block, Evans Jones Limited, March 2021.

Please refer to the Schedule of Drawings (Table 1) for earthworks, pipe sizes and layout. Please consult the Drawing Register to ensure that the latest revision versions of the drawings are used.

Table 1 Schedule of Drawings

Drawing No.	Title
TGMS1121.1-2	Proposed site layout

General Notes

- All drainage and earthworks to be carried out using equipment fully equipped with laser grade control.
- All ancillary equipment to be fitted with low ground pressure tyres.
- Diesel or any other deleterious matter shall be prevented from contaminating the site etc. Any such matter allowed to pollute the site shall be removed together with all affected soil and/or plant material and carted to tip at the Contractor's own expense. Any material necessary to make good the soil formation or plant material will be provided by the Contractor and will be of the type and quality of the original material prior to damage, and must be approved by the Contract Administrator.

- It is the Contractor's responsibility to conduct searches to determine the presence of any services and utilities running through, over and/or around the working area. Contractors should conduct site investigations to determine the location of any service or utilities as per good health and safety procedures. All this should be before the commencement of any work on site.
- Prior to start on site, the Contractor shall prepare a photographic Schedule of Condition and agree same with the Contract Administrator

2.3 DETAILED SPECIFICATION

ITEM OPERATION

Transport and preliminaries

P1 The Contractor shall allow for all necessary fencing and signage in order to secure the working and site compound areas and haulage routes in order to protect members of the public from the works. It is anticipated that Heras fencing shall be used to demarcate the working areas and site compound. Footpath crossing points shall be marked appropriately. The location for deep excavations (e.g. inspection chamber construction) shall be protected with Heras (or similar) fencing.

P2 The Contractor shall allow for compliance with all relevant Health and Safety regulations including the Construction Design and Management regulations (CDM) 2015.

P3 The Contractor shall allow for the provision of all welfare facilities for staff.

P4 The Contractor shall allow for the mobilisation and demobilisation of all necessary plant to complete the project.

P5 The contractor shall allow for compliance with all Conditions of Contract.

1 Setting out and enabling works

1.1 The development area shall be set-out according to the details provided on **Drawing TGMS1121.1-2.**

1.2 Arrange for the trees located where the new entrance off Thetford Road is to be constructed, (indicated on drawing **TGMS1121.1-2**) to be felled, and for the stump and roots to be grubbed out. Dispose of arisings off-site.

1.3 Remove the existing wooden fence along Thetford Road. Dispose of arisings off site.

1.4 Create a working access point from Thetford Road into the development area at the location of the proposed new entrance, as indicated on **Drawing TGMS1121.1-2**.

1.5 Remove the section of hedge in the south-eastern corner of the site near the existing cremated remains plots, as indicated on **Drawing TGMS1121.1-2**. Stumps and roots to be grubbed out. Dispose of arisings off-site.

1.6 Remove the timber gate located in the south-eastern corner of the site near the cremated remains plots. Dispose of arisings off site.

2 Site clearance

2.1 Spray off the existing vegetation in the working area with an approved, systemic, non-residual total herbicide in accordance with the manufacturer's instructions and an appropriate COSHH assessment by qualified personnel. A period of 14 days shall elapse between spraying and undertaking cultivations to allow sufficient time for the vegetation to senesce. A second application of total herbicide may be required just prior to cultivation to ensure complete vegetation control. Extreme care should be taken to avoid spraying trees/hedges on site.

2.2 Any remaining vegetation and stubble on the site shall be flail-mowed and the clippings removed to disposal off-site. Due care and attention should be taken round tree trunks.

3 Water supply and stand pipes

3.1 Supply and lay 63 mm diameter MDPE water pipe (12 bar pressure rated) including all necessary trenching and connect to the supply from a borehole installed in the existing cemetery.

3.2 With reference to **Drawing TGMS1121.1-2**, supply and install Edwards Standpipe Model ED2012 with bib tap (or similar) including connection to the water supply via a ½" BSP brass female socket. Include a 600 x 600 mm concrete slab, set into the ground beneath the taps to dissipate water spillage.

3.3 Install a new power supply to the borehole in the existing cemetery.

3.4 Supply and install a new submersible pump the borehole in the existing cemetery.

4 Dense and porous macadam roads, paths and car park

4.1 A dense macadam entrance, and porous macadam roads, paths and car park, shall be constructed as indicated on **Drawing TGMS1121.1-2**. Excavate and dispose (on-site) material to achieve a uniform sub-grade of 0.390 mm below finished levels. Ensure that topsoil is separated from subsoil. Excess subsoil shall be disposed of by temporarily scraping off topsoil from proposed grave plot areas, placing and grading the surplus subsoil before returning the topsoil. Excess topsoil shall be placed and graded over proposed grave plot areas.

4.2 Cut and fill and re-grading operations shall be carried out when subsoil is below its plastic limit water content.

4.3 The formation shall be free from tree roots, mud or slurry and will have no areas of freestanding water. Any loose, fragmented, or soft materials shall be excavated and re-packed with crushed rock, free from detritus material, in accordance with the Department of Transport Specification for Highway Works (Class 6F2).

4.4 The formation shall be compacted using smooth drum rollers to ensure full compaction to ensure no future settlement or subsidence; to achieve a CBR of >5%.

4.5 The formation surface shall be treated with a residual herbicide to minimise the risk of future weed growth. This to be applied by competent personnel in strict accordance with the Manufacturer's instructions and relevant legislation/regulations.

4.6 Carry out California Bearing Ratio (CBR) plate testing to six (6 no.) different areas of the prepared formation and provide published results upon completion for approval by TGMS prior to installation of the stone sub-base.

4.7 Kerbs around the porous macadam car park, road and paths shall be precast concrete pin kerbs (e.g. 50 mm x 150 mm x 900 mm) to BS 7263:2001, well haunched in concrete on mass concrete foundations. Movement joints shall be installed at appropriate spacings. Kerbs shall be laid to a true line and level with the proposed finished tarmac surface. For layout and cross sections see **Drawing TGMS1121.1-2**.

4.8 Kerbs around the dense macadam entrance perimeter shall be precast concrete HB2 kerbs to BS 7263:2001, well haunched in concrete on mass concrete foundations. Allow radius droppers to effect a smooth transition both in height and direction. For layout and cross sections see **Drawing TGMS1121.1-2**.

4.9 Supply and lay a permeable geotextile membrane over the formation surface. The geotextile membrane shall be a non-woven type and have a minimum tensile strength of 20 kN m-1 when tested in accordance with BS EN ISO 10319 and a static puncture strength of at least 2.0 kN when tested in accordance with BS EN ISO 12236. Joints shall overlap by at least 300 mm.

4.10 Supply and place 300 mm compacted depth of stone sub-base. For dense macadam surfacing, the sub-base shall comprise non-frost susceptible DOT Type 1 granular sub-base to SHW Clause 803 or **4/40 mm, 4/20 mm** graded crushed concrete aggregate to

EN12620 or locally available secondary or recycled aggregates which comply with **2/6.3** graded crushed concrete aggregate to **EN12620.** For porous macadam surfacing, the sub-base shall comprise Aggregate Industries 'Suds Aggregate' 20/4 product (or equivalent). All aggregates shall be non-porous and frost resistant; test certificates to be provided by the aggregate supplier.

4.11 The sub-base shall be compacted using smooth drum rollers to ensure full compaction and consolidation to ensure no future settlement or subsidence. The installed sub-base shall have a compacted density of 95% of the maximum dry density when tested in accordance with BS5835 (there shall be no detectable movement under the roller used to compact the surface) and have a target stiffness of 60 MPa (min 40 MPa) when tested with a lightweight deflectometer.

4.12 The sub-base for the porous macadam surfacing shall have a permeability of >500 mm/hour when compact (as per BS EN 12626).

4.13 The surface level tolerance shall be <10 mm when checked using a 3 m straight edge.

4.14 Conduct surface stiffness testing with a lightweight deflectometer (300 mm plate, contact stress of 100 kPa (7.1 kN impact force)) to six (6 no.) different areas across the sub-base. Results from the testing shall be provided to TGMS for approval prior to the application of the macadam course.

4.15 For dense macadam surfacing, Supply and lay a 60 mm deep 14 mm sized granite / hard limestone aggregate dense bitumen macadam binder course conforming to BS 4987:Part 1:2005.. For porous macadam surfacing, supply and lay 60 mm consolidated thickness layer of 20 mm sized granite / hard limestone aggregate open textured porous macadam base course (aggregate Industries Drainasphalt 20, Lafarge Tarmac UltiDrive Porous Binder Course, or approved similar) conforming to BS EN 13108-7).

4.16 For dense macadam surfacing, supply and lay a 30 mm consolidated thickness layer of 10 mm sized granite / hard limestone aggregate Stone Mastic Asphalt (SMA) dense bitumen macadam wearing course conforming to BS 4987:Part 1:2005. For porous macadam surfacing, supply and lay 30 mm consolidated thickness layer of 6 mm sized granite aggregate open textured macadam wearing course (Aggregate Industries Drainasphalt 6, Lafarge Tarmac UltiDrive Porous 6 mm, or approved alternative), conforming to BS EN 13108-7.

4.17 When checked using a 3 m straight edge, there should be no deviation >8 mm. No joint shall vary in level by more than 2 mm.

4.18 The finished porous macadam surface shall have an in-situ infiltration rate exceeding 100 mm/hour (measurements to be normalised to a water temperature of 10°C to allow for temperature dependent changes in viscosity).

4.19 Work shall not progress to the next stage until the macadam levels have been inspected by TGMS (or other competent independent authority appointed by the Client).

4.20 Supply and install ACO RoadDrain 200 at the interface between the entrance and car park. Convey the water into the stone sub-base beneath the car park:

- 0.500 m below nominal ground level.
- 0.260 m wide (0.200 m bore width).
- Allow 0.200 either side for concrete haunch.

Grade at natural fall of the surface.

5 Fold-down bollards

5.1 Supply and install fold-down bollards. Product to be approved by the Client prior to installation.

6 Line marking – car park

6.1 The macadam shall be allowed to cure and the surface should be clear of grease and oil. This normally takes a minimum of three weeks in the British summer.

6.2 With reference to **Drawing TGMS1121.1-2**, line markings shall comprise white paint complying with BS 6044: Specification for Pavement Marking Paints.

6.3 Line marking should only be undertaken in fine and dry weather (min temp 5°C).

6.4 Each coat should be allowed to cure before further paint application.

7 Timber fence

7.1 Supply and erect 1.2 m high closeboard timber fencing along the northern edge of the car park as indicated on **Drawing TGMS1121.1-2**. Fencing samples to be approved by the Client.

7.2 Posts shall be a minimum of 100 x 100 mm (4x4) section and concreted into the ground at least 600 mm deep. The distance between the post centres shall not exceed three metres.

7.3 Two rails shall be fixed horizontally across the face of the feather edge boards.

8 Post and chain fence

8.1 Supply and install 0.5 m high post and chain fencing such as https://www.harrodhorticultural.com/driveway-chain-link-fencing-pid9275.html or similar along the southern edge of the car park as indicated on **Drawing TGMS1121.1-2**. Fencing samples to be approved by the Client.

8.2 The posts shall be concreted into the ground at least 400 mm deep. The distance between posts shall be 2 m.

9 Vehicle height restrictor barrier

9.1 Supply and install a 6 m wide vehicle height restrictor barrier at the entrance to the car park as indicated on **Drawing TGMS1121.1-2**. Product to be approved by the Client prior to installation.

10 Hedges

10.1 The eastern and southern perimeter boundaries of the cemetery extension are to be demarcated with new Hawthorn and Laurel hedges respectively.

10.2 With reference to **Drawing TGMS1121.1-2**, excavate a trench for the new hedges 300 mm x 450 mm, supply and plant 2 rows of Common Hawthorn and Laurel hedging plants (600 to 900 mm whips with clear plastic perforated spiral guards) at 300 mm centres in staggered rows, backfilled with excavated material incorporating organic manure at a rate of 1 m^3 per 5 m^3. Carry out initial cut.

11 Topsoil cultivation (grave plot areas)

11.1 Once vegetation has senesced, the development area shall be ploughed to a depth of 200 mm.

11.2 Following ploughing, the area shall be cultivated with a power harrow prior to re-grading.

12 Re-grading

12.1 Once the topsoil is friable it should be carefully graded to provide a surface that is level to a tolerance of ± 20 mm under a 3 m straight edge.

12.2 The graded surface must form a smooth transition with the surrounding land. There shall be no slopes greater than 1:3.

13 Final grading, seedbed preparations, fertilisation & seeding

13.1 Following re-grading, the development area shall undergo final surface grading to produce a finished surface to the tolerances stated in **Item 12.1.**

13.2 The development area shall then be fertilised with a pre-germination fertiliser of 10:15:10 formulation at a rate of 70 g/m^2 at least 5 days prior to seeding.

13.3 Any stones/debris greater than 20 mm in any dimension shall be removed from the top 50 mm of the topsoil by stone picking/stone burying.

13.4 The surface shall be lightly cultivated in order to incorporate the fertiliser and to produce a seedbed suitable for the cultivation of grass.

13.5 The following seed mix shall be drilled using multiple passes, to achieve an overall seedrate of @ 35 g/m^2:

- 40% Perennial ryegrass
- 40% Creeping red fescue
- 20% Browntop Bent

These particular grasses have been selected because they exhibit slow growth under a low maintenance regime.

13.6 The seed shall have a certified germination of not less than 80% and a certified purity of not less than 90%. Total weed seed content shall not be more than 0.5% and the total content of other crop seeds shall not exceed 1%.

13.7 Following seeding, the areas shall be lightly rolled with a set of Cambridge rolls in order to firm the seedbed and ensure good seed/soil contact.

13.8 The contractor shall undertake the first three grass cuts following establishment.

14 Bike stands

14.1 Supply and install a Sheffield Cycle Stand bike rack. Five stands will be required and these shall be submerged 250 mm into the ground to provide extra security. These stands shall be http://lockit-safe.co.uk/product/sheffield/ and should be installed with a minimum of 800 mm between each stand.

15 Toilet block refurbishment

15.1 The toilet block in the existing cemetery shall be refurbished in line with recommendations set out in the Access Audit of Mildenhall Cemetery Toilet Block, Evans Jones Limited, March 2021. The refurbishment shall include the following:

1. Convert a part into an accessible cubicle.
2. Increase external path from 900 mm to >1.2 m.
3. Convert existing shelter into accessible cubicle.
4. Create gently sloping (,1:21) approach to accessible cubicle.
5. Improve contrast of sanitaryware and fittings.
6. Replace knob taps with lever taps.
7. Improve contrast of cubicle door openings.

16 Reinstatement of damage

16.1 All damage caused by plant and vehicle movement is to be reinstated. Cultivate any damaged areas to below the depth of damage using a rotary cultivator or similar equipment. Care must be taken with the timing of this operation to avoid smearing on the base of the cultivation. Any weeds or rubbish over 20 mm gauge must be removed and disposed of on site as directed by the Contract Administrator. Grade the topsoil to provide a surface that is level to a tolerance of ± 20 mm under a 3 m straight edge.

16.2 Any stones greater than 20 mm in any dimension should be removed from the top 50 mm of the topsoil by stone burying.

16.3 Fertilise with an appropriate pre-germination fertiliser of 10:15:10 formulation at a rate of 70 g/m^2 at least 5 days prior to seeding. This should be lightly worked into the seedbed.

16.4 Undertake final cultivations to produce a seedbed suitable for the establishment of grass.

16.5 The area shall be drilled using a Sisis Variseeder or similar, possibly with multiple passes, to achieve an overall seedrate of @ 35 g/m^2:

- 40% Perennial ryegrass
- 40% Creeping red fescue
- 20% Browntop Bent

These particular grasses have been selected because they exhibit slow growth under a low maintenance regime.

16.6 The seed shall have a certified germination of not less than 80% and a certified purity of not less than 90%. Total weed seed content shall not be more than 0.5% and the total content of other crop seeds shall not exceed 1%.

16.7 The seeded area shall be lightly rolled using a set of Cambridge rolls to settle and firm the surface.

17 As-built survey

17.1 Conduct as-built survey of constructed site including location of water supply infrastructure.

2.4 WORK SCHEDULES

Please refer to the accompanying MS Excel spreadsheet:

TGMS1121.3 Thetford Road Cemetery Extension Work Schedules 10 01 20 REV2 23 08 21.xlsx

2.5 DESIGNERS ASSESSMENT OF RESIDUAL RISK

2.5.1 The Project

- Name: Thetford Road Cemetery.
- Nature: Construction of a cemetery extension.
- Location: Thetford Road Cemetery, Thetford Road, Mildenhall, Bury Saint Edmunds IP28 7HX.

2.5.2 Nature of work:

- Removal of a minimum of two trees, and a maximum of four trees from along Thetford Road (disposal of arisings off-site).
- Removal of the existing fence parallel with Thetford Road to disposal off-site
- Creation of a new dedicated entrance from Thetford Road.
- Installation of a vehicle height restrictor barrier.
- Removal of a section of hedge near the existing cremated remains plots.
- Removal of vegetation using a total herbicide.
- Installation of water standpipes.
- Installation of a car park, roads and paths.
- Installation of fold-down bollards.
- Line marking of car park bays.
- Erection of new timber fence.
- Installation of a post and chain fence.
- Installation of a new timber gate near the existing cremated remains plots.
- Establishment of hedges.
- Cultivations and leveling of the site to create an even surface.
- Grass establishment (fertilising, seeding and mowing).
- Installation of bike stands.
- Installation of a power supply and submersible pump for the existing borehole.
- Refurbishment of the toilet block to include the following:

    8. Convert a part into an accessible cubicle.
    9. Increase external path from 900 mm to >1.2 m.
    10. Convert existing shelter into accessible cubicle.
    11. Create gently sloping (,1:21) approach to accessible cubicle.
    12. Improve contrast of sanitaryware and fittings.
    13. Replace knob taps with lever taps.
    14. Improve contrast of cubicle door openings.

- Reinstatement after completion of works.

2.5.3 Timescale for works:

12 weeks.

2.5.4 Existing drawings:

Table 2 Schedule of Drawings

Drawing No.	Title
TGMS1121.1-2	Proposed site layout

2.5.5 Existing environment:

1. The site comprises mown grass.

2.5.6 Residual risk to construction workers:

1. Tetanus.

2. Injury from vehicle movements in and around site.
3. Potential fall hazard from exposed excavations prior to backfilling.
4. Fertiliser application.
5. Herbicide application.
6. Materials handling.

2.5.7 Construction materials that are hazardous to health:

1. Herbicide.
2. Fertiliser.
3. Soil.
4. Cement.
5. Macadam.

2.5.8 Site wide elements:

The working areas and haul routes shall be fenced with Heras fencing, or similar, to delineate these areas. This fencing shall be maintained until handover to the Client.

2.5.9 Method statements & risk assessments to be provided by contractor:

1. Earthworks.
2. Herbicide applications.
3. Fertiliser applications.
4. Macadam surfacing.

2.6 METHOD STATEMENTS

ITEM	Brief method statement (Continue on additional sheets if required)	Type/ name of equipment you intend to use	Is equipment owned by the contractor?	Is equipment rented?	Will work be sub-contracted?	How many staff will be on site?
Earthworks						
Herbicide application						
Fertiliser application Macadam surfacing						

2.7 SUBCONTRACTORS

Please specify the names and contact details for any subcontractors that you intend to use during the project (please continue on a separate sheet if necessary):

Name:	Contact Details:	Role:

2.8 REFERENCES

Please provide references from three recent (last 2 years) schemes where you have carried out work of a similar nature and value. Please give name, address and telephone number for the referees.

Name:	Contact Details:	Nature of work / project value (£):

2.9 CONFIDENTIALITY

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A report to Mildenhall Parish Council on the site conditions for a proposed cemetery extension as part of an Environment Agency T2 Audit

Justin Smith; CDSL
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March 2015
D1.0.01




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Mildenhall Parish Council

A Groundwater Audit for the Proposed Cemetery Extension for Mildenhall Parish Council

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1 Executive Summary

2 Introduction

3 Background

4 Site Investigations

5 Pollutant Risk

6 Depth of Burial

7 Archaeology

8 Risk Evaluation

9 Mitigation

10 Conclusion

1.0 Executive Summary

Following the site observations and detailed desk analysis, our conclusion is that the site in its current state, poses a moderate to high risk to controlled waters as assessed under EA current guidelines. This is mainly due to the moderate burial number circa 15 per annum.

However, with at approximately 4 metres between base of grave and any anticipated ground water strikes at their highest level, we feel that, given suitable attenuation, this could be achieved within the superficials and addition of zeolitic compounds

There are no wells or water courses, but the site sits within source protection zone 2 up gradient of an abstraction point within the development location, this may deem to make the site a risk to potable or surface water supplies.

Furthermore, with the adoption of the mitigation options above, we see that the overall risk is likely to be significantly lower than that determined by the qualitative approach to the risk calculations..

2.0 Introduction

Cemetery Development Services carried out a desktop soil and water survey in March 2015 for the proposed development site shown in Figure 1a and b below. During this survey, the site general area was surveyed in order to establish the degree of variation in the type and condition of the soil, its hydraulic properties and the potential risk to groundwater contamination. The proposed development areas are assessed on a centroid of a 500 metre area of influence, grid reference *572344, 274866*.. The site area is calculated as being 0.6 hectares or 1.5 acres.

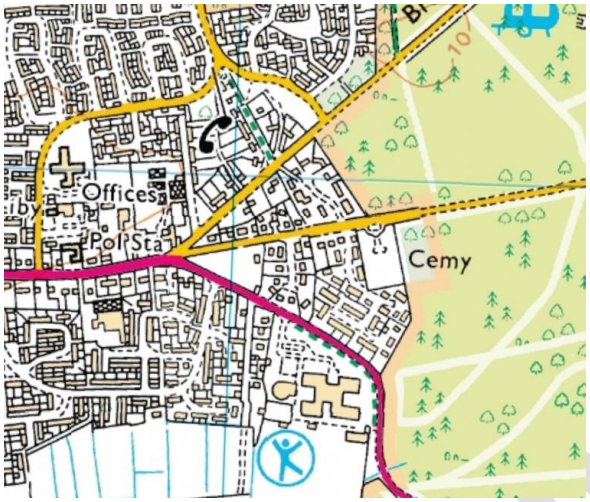


Figure 1a

Figure 1b

Figure 1c

This report will systematically review the site proposed for use as a burial facility on the basis of desktop studies in accordance with the requirement of the Environment Agency's Tier 1 survey.

3.0 Background

New cemetery developments or extensions to existing cemeteries can be very emotive. However, these emotive concerns are often disproportionate to the actual associated environmental risk.

Whilst the Local Planning Authority is the principal controlling body in determining approval for new sites or site extensions, significant information is required to ensure that the environmental risks are examined and that the Environment Agency's views are considered. Therefore, measures to prevent pollution must be undertaken and reported. Any regulatory decision-making is based on sound scientific knowledge. On this basis, a review of potential pollution from cemeteries was undertaken by the Environment Agency in collaboration with the British Geological Survey.

The aim was to review old and new cemeteries and measure the effects of contamination from viruses, bacteria and other microbiological pathogens and to assess the potential of chemical contaminants affecting groundwater supplies from decomposition processes. Preliminary results showed that the operating cemetery examined in the study, (25 years old), did show some evidence of bacterial contaminants in groundwater derived from corpses. However, no viruses were detected and the overall contaminant loading was found to be low. The studies found that degradation and attenuation was occurring, indicating that potential risks were low. Whilst the outcome of this research found contaminant risk to be low, it should be reviewed in the context that natural attenuation processes may have been optimum at these sites. Therefore, to optimise natural attenuation and reduce the risk of possible groundwater contamination, a series of guidelines have been drawn up that are directly applicable to cemeteries.

Failure to manage and reduce any environmental risk to a minimum may result in action being taken under the Groundwater Regulations 1998 and the Anti-pollution Works Notice Regulations 1999.

3.1 Groundwater Protection Policy

Initial risk screening would start with the tools contained in the Agency's publication, Policy and Practice for the Protection of Groundwater in cemeteries and in the latest GP3 guidance notes.

Tools include Groundwater Vulnerability and Source Protection Zone (SPZ's) maps. These maps highlight where there are likely to be particular risks posed to groundwater from surface activities. Groundwater Vulnerability (GWV) Maps show the damage from pollution to groundwater and the relative importance of the aquifer to water supplies. Risk assessment is made with reference to soil leaching potential and the levels of water tables above major and minor aquifers.

Source Protection Zones are delineated areas around groundwater abstractions used for public consumption and defined by travel time of biological or chemical contaminants.

The zones are classified in three groups:

Zone 1 - High risk
Zone 2 - Intermediate to high risk
Zone 3 - Intermediate risk

The agency would be opposed to large graveyards within Zone 1 of an SPZ.

Whilst groundwater is a major part of policy concerns, other water point sources are also considered as requiring an evaluation of risk. These sources include surface water in the form of ditches, spring lines and surface run-off.

The factors influencing the risk of groundwater vulnerability include:

- Soil nature and type
    - Physical, mechanical and chemical properties
- Geomorphology
    - Depth to water table and or height above aquifers
    - Groundwater flow mechanisms
    - Aquifer type
- Abstractions
- SPZ's
- Proximity to water courses, ditches and drains

Therefore, prior to any consent being given by the Environment Agency, an assessment of risk should be undertaken. The degree of assessment is measured through a series of stages namely:

- Hazard identification
- Identification of consequences
- Magnitude of consequences
- Probability of consequences
- Significance of risk

3.2 Tiered Risk Assessment

There are 3 Tiers of Risk assessment - the associated size and position of the site will, in part determine which Tier is appropriate**.**

Tier 1
Desktop study of all appropriate documentation including GWV and SPZ maps, topographical, hydrological and geomorphologic maps. After adopting a systematic approach to the assessment of risk, a weighting can be given which is assessed as low, medium or high. If the overall risk is low, the proposal may be accepted by the Agency without further detailed assessment. However, the following practical guidelines would be recommended as appropriate controls to minimize pollution risk:

- 250 m distance from groundwater supply
- 30 m minimum distance from groundwater or spring
- 10 m distance from field drains
- No burials in standing water.

Tier 2
Should the risks not be clearly defined by the desktop study then further "ground truthing" might need to be undertaken. This may include field studies and monitoring of groundwater within the proposed area, comprising of the installation of up to three boreholes.

Tier 3
If the risk is considered high, i.e. the number of yearly burials exceeds 1,000 then a full audit will be required. This would include, but not be limited to, a detailed site investigation including boreholes and monthly monitoring.

3.3 Water Resources Act 1991 – S161A Anti Pollution Works Notices

The EA has powers under s161A of the Water Resources Act 1991 and the Anti-Pollution Works Regulations 1999 allowing Works Notices to be served to prevent or remedy pollution of controlled waters, and under the Groundwater Regulations 1998 to prevent pollution of groundwater.

3.4 Groundwater Regulations 1998

The burial of human corpses can result in discharge of listed substances to groundwater. They are therefore covered by the requirements of the Groundwater Regulations. Individual burials spaced out over time will only release trivial amounts of listed substances.

These are considered to fall under the *de minimis exemption.* Large numbers of burials (>100 per annum) in a short time, or the cumulative effects of many individual burials may cause groundwater pollution. In this case the EA will, where appropriate, use their powers under the Groundwater Regulations to control or prohibit the burial. This has specific relevance to policy P12-2 but will apply more generally.

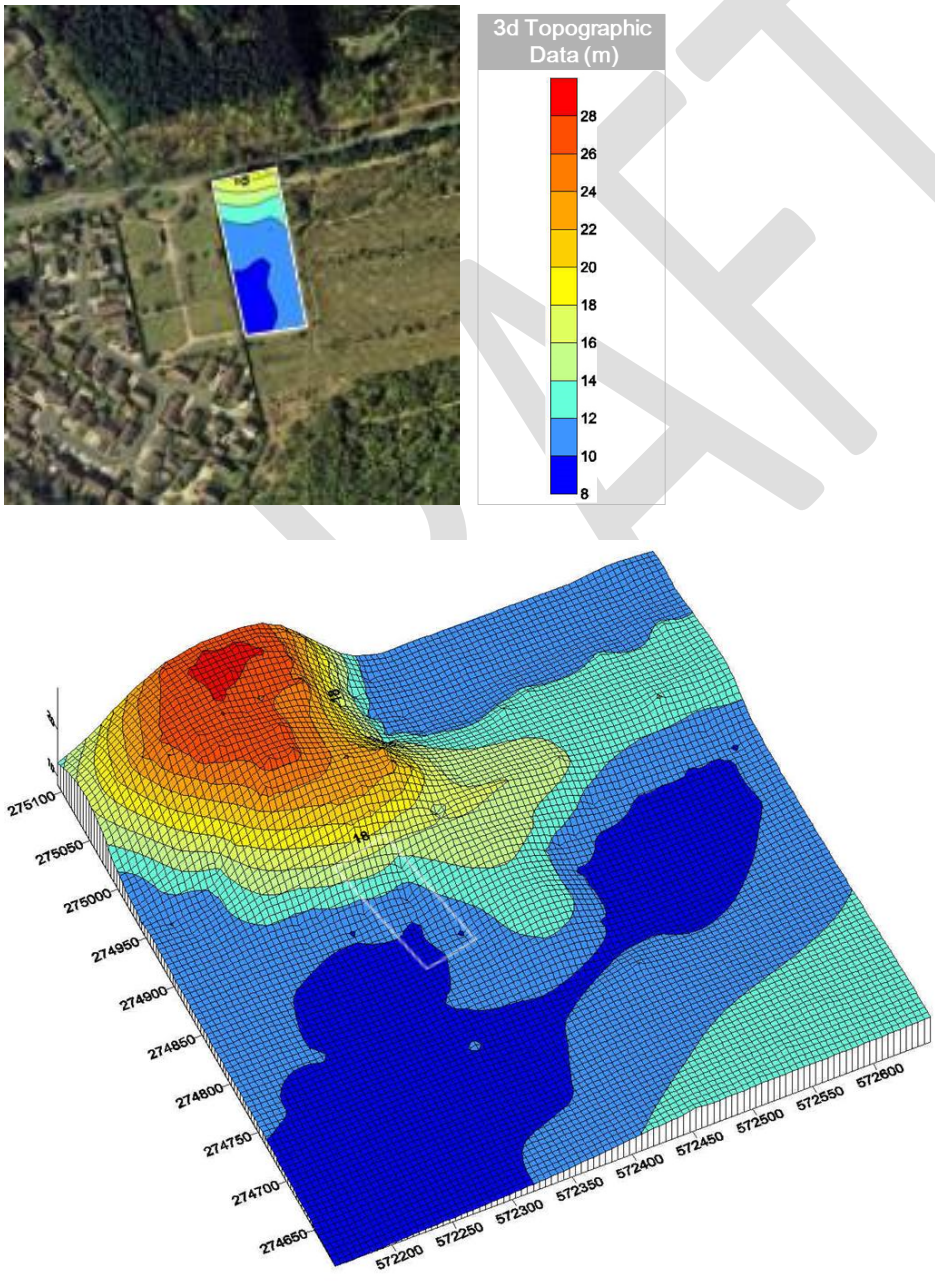
4.0 Site Investigation

BGS and the Soil Survey of England and Wales hydro-geological departments were consulted for the construction of this report.

4.1 Topography and Surface Drainage

The site slopes towards the west with a fall of approximately 3 metres over its length of 54 metres; the south western edge and lowest point lies at approximately 15 metres above Ordnance Datum (OD). The highest point lies at the north eastern boundary of the site and is at approximately 19 metres OD. The proposed site is currently unimproved grassland. On the southern boundary, 800 metres from the site, there is a small stream that flows towards the east and on into the River Lark.

Figure 2



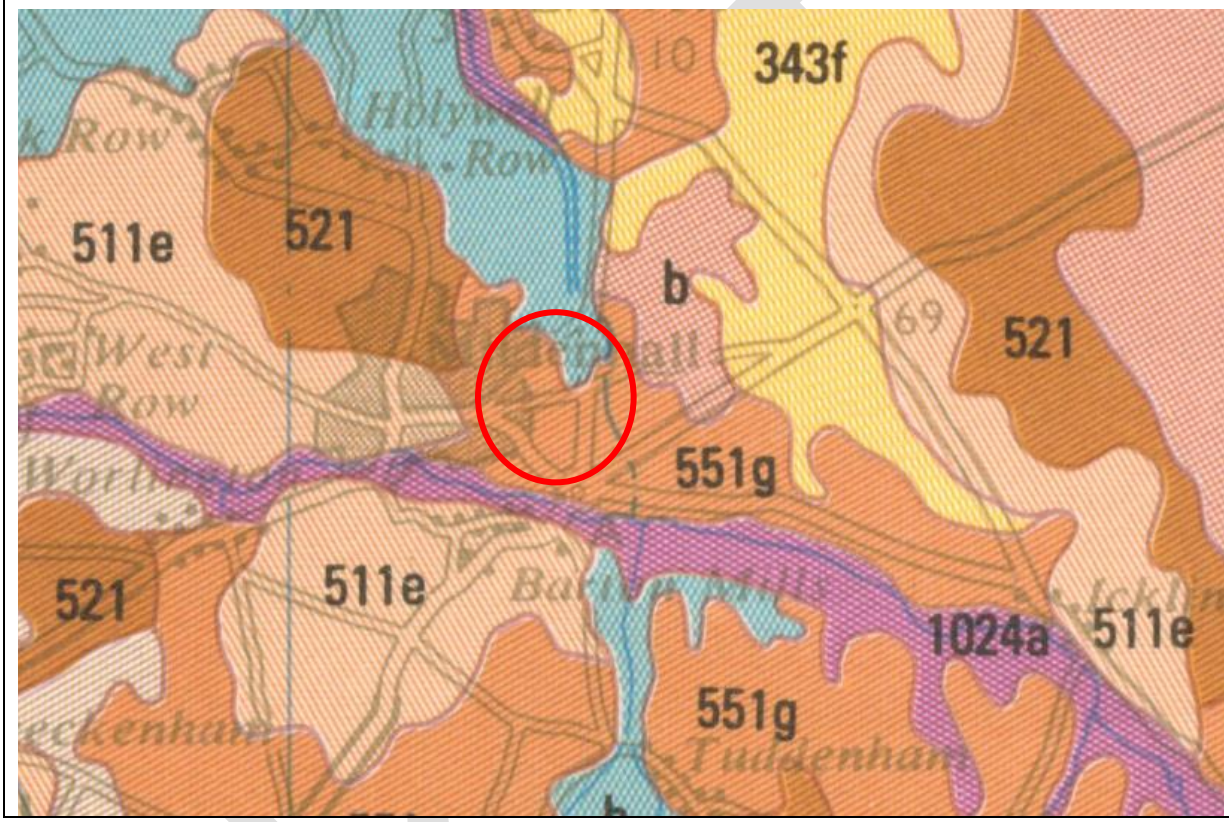
4.2 Soil Type

The Soils Maps of England and Wales map the site at Mildenhall to be of possibly the following soil series as illustrated in Table 1 and Figure 3 below.

Table 1

Soil Association	Sub Groups	Description
551 g Newport	Redlodge	Glaciofluvial Drift being deep well drained sandy soils. Some very acidic soils with bleached subsurface horizons especially under heath or in woodland.

Figure 3



4.2.1 Site Investigations

The site was pit trialed at the locations illustrated and results are illustrated in Figures 4, 5 and 6 below

Figure 4

Figure 5 a - f

Borehole/Testpit Log		Excavation Type and Method:	Date
BH/Pit Ref.	TP 1	Pit profiles	23/03/2015

Surface (m OD) NA

Depth (m BGL)	Symbol	Description	Notes	Installations
		Top soil		
1.0				
		Fine sand		
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				
8.0				
9.0				

Figure 5b

Borehole/Testpit Log		Excavation Type and Method:	Date
BH/Pit Ref.	TP 2	Pit profiles	23/03/2015

Surface (m OD) NA

Depth (m BGL)	Symbol	Description	Notes	Installations
		Top soil		
1.0				
		Fine sand		
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				
8.0				
9.0				

Figure 5c

Borehole/Testpit Log		Excavation Type and Method:	Date
BH/Pit Ref.	TP 3	Pit profiles	23/03/2015

Surface (m OD) NA

Depth (m BGL)	Symbol	Description	Notes	Installations
		Top soil		
1.0				
		Fine sand		
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				
8.0				
9.0				

Figure 5 d

Borehole/Testpit Log		Excavation Type and Method:	Date
BH/Pit Ref.	TP 4	Pit profiles	23/03/2015

Surface (m OD) NA

Depth (m BGL)	Symbol	Description	Notes	Installations
		Top soil		
1.0		Fine sand		
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				
8.0				
9.0				

Figure 5 e

Borehole/Testpit Log		Excavation Type and Method:	Date
BH/Pit Ref.	TP 5	Pit profiles	23/03/2015

Surface (m OD) NA

Depth (m BGL)	Symbol	Description	Notes	Installations
		Top soil		
1.0				
		Fine sand		
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				
8.0				
9.0				

Figure 5f

Borehole/Testpit Log		Excavation Type and Method:	Date
BH/Pit Ref.	TP 6	Pit profiles	23/03/2015

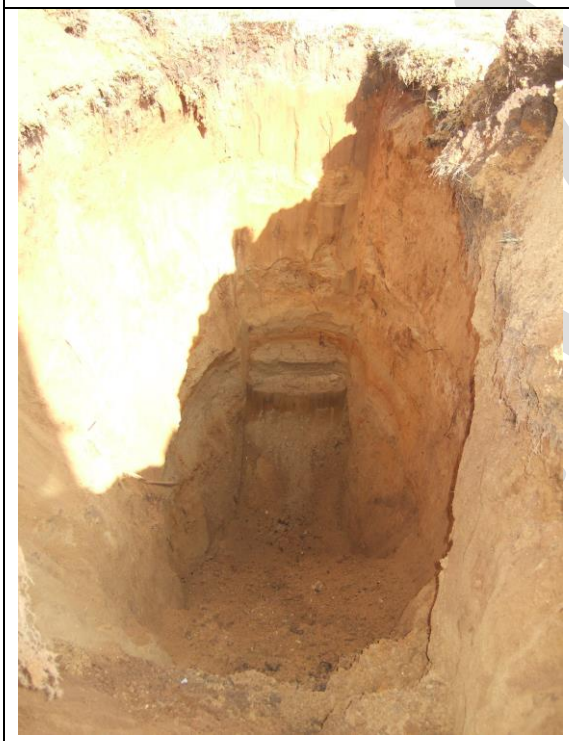
Surface (m OD) NA

Depth (m BGL)	Symbol	Description	Notes	Installations
		Top soil		
1.0				
		Fine sand		
2.0				
3.0				
4.0				
5.0				
6.0				
7.0				
8.0				
9.0				

Figure 6

Pit 1

Pit 2



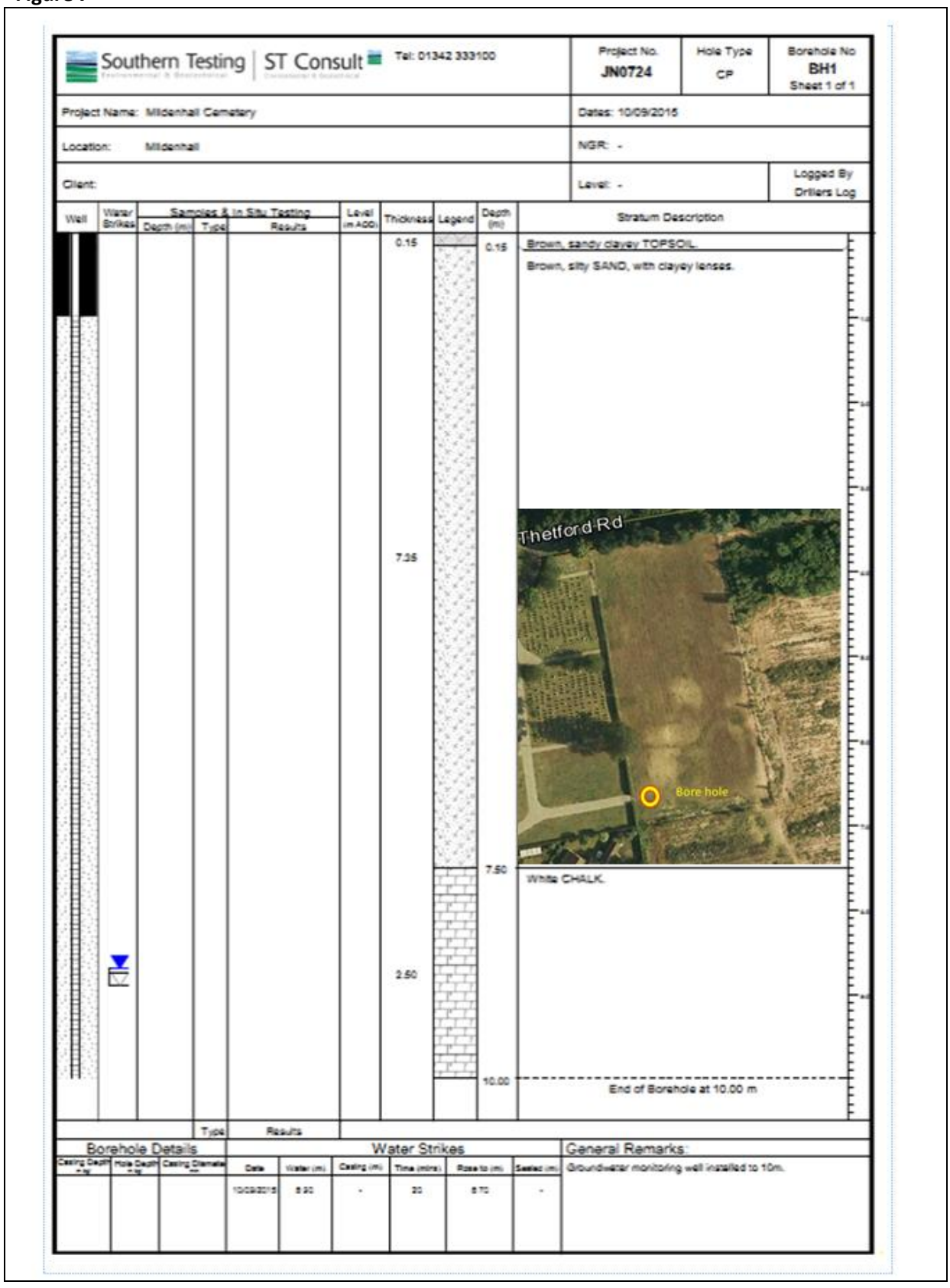
Pit 4

Pit 6

All 6 trial pits showed similar profile properties of loosely consolidated sand.

A borehole was installed to the lowest point of the site at the position marked.

Figure 7



Water was struck at 8.7 m at the time of drilling and was monitored for 8 months

Table 2

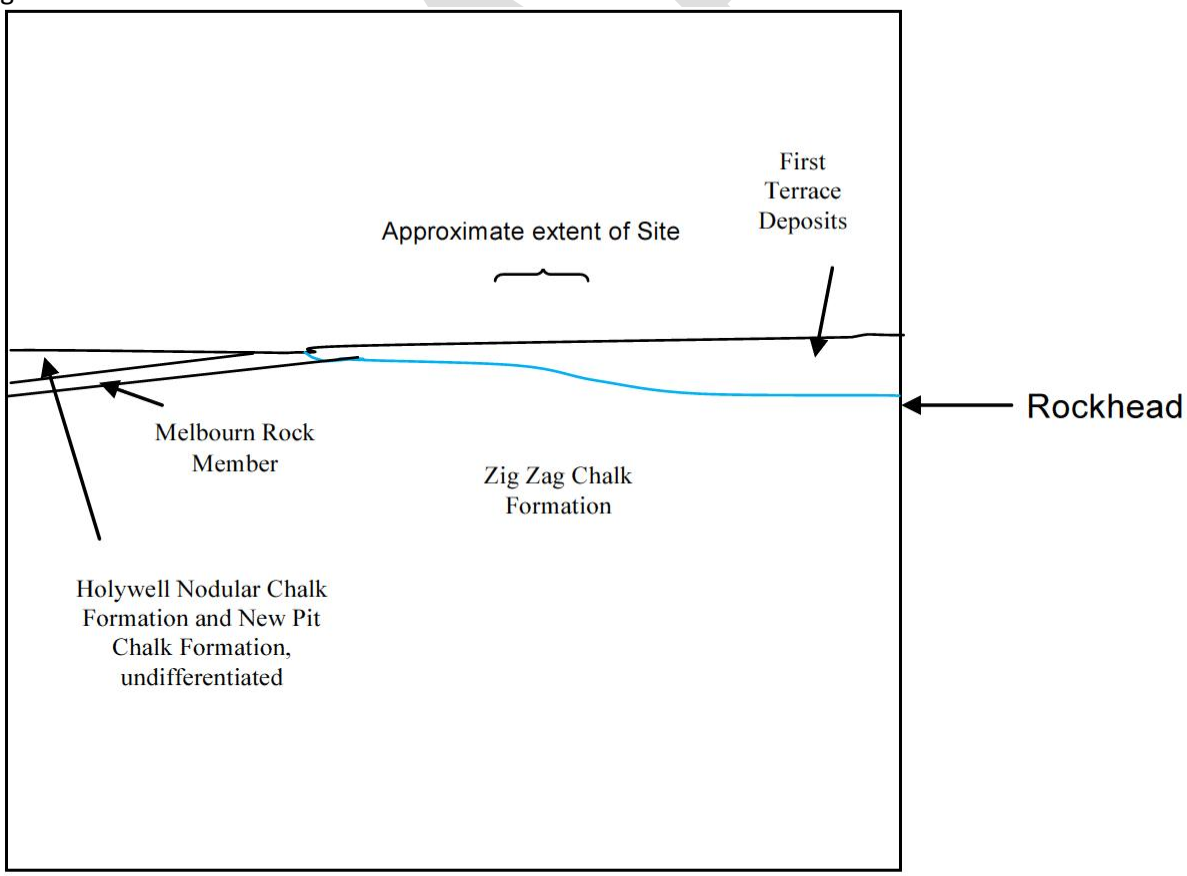
Date	Depth bgl to water strike
10th Sept	8.7 m
7th Oct	8.2 m
4th Nov	7.8 m
19th Dec	5.6 m
21st Jan	4.5m
12th Feb	3.8 m
7th Mar	4.3 m
12th Apr	5.2 m
9th May	6.3 m
14th Jun	6.2 m

The highest the water table rose was to 3.8 m bgl

4.3 Geology

The following headings cover the aspects of geology of the immediate area of the proposed development. The schematic "X" section (Figure 8) below, illustrates the general geological construction below the site.

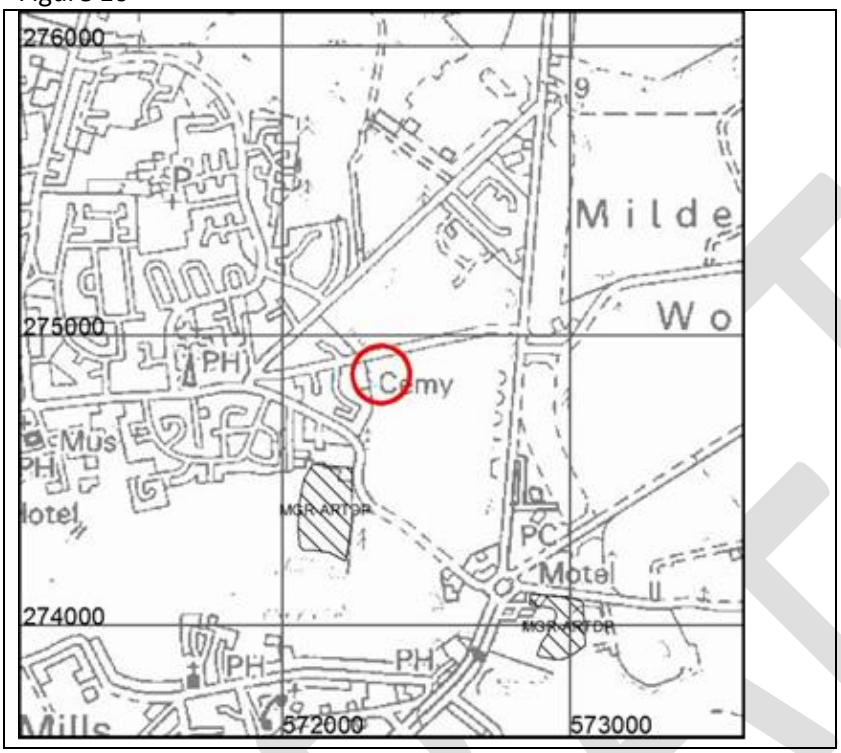
Figure 8



4.3.1 Artificial Ground

This is ground at or near the surface that has been modified by man. It includes ground that has been deposited (Made Ground), landscaped, disturbed, excavated (Worked Ground) or some combination of these.

Figure 10



No Artificial Ground has been recorded by BGS up to the time of map compilation in 1978. Ordnance Survey topographic maps, dated between 1885 and the present, show no significant development of the site.

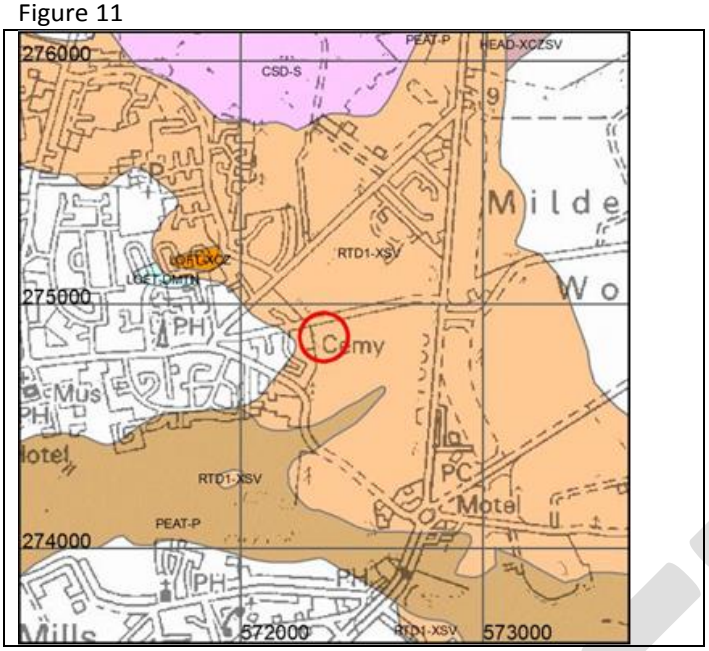
4.3.2 Superficial Deposits

These are relatively young geological deposits formerly known as 'Drift', which lie on the bedrock in many areas. They include deposits such as unconsolidated sands and gravels formed by rivers and clayey tills formed by glacial action. They may be overlain by landslide deposits or by artificial deposits, or both.

The entire site is underlain by First River Terrace Deposits. These comprise interbedded sand and gravelly sand, locally clayey; the gravel is mainly fine to coarse subangular flints with minor rounded quartzite and traces of chalk; the sand is medium to coarse grained. Boreholes in the area but at least 150 m outside the site indicate thicknesses ranging from 2 to 9.5 m.

Other superficial deposits may underlie the site: in a borehole 600 m to the south-east (SK77SW/29 [572860 274570]), 8.0 m of gravelly sand ascribed to river terrace deposits is underlain by 2.3 m of glaciofluvial sandy gravel and 8.9 m+ of till. However the proximity of the site to the mapped limit of the river terrace deposits suggests that this is unlikely but needs to be considered as a possibility.
The possible presence of sand beds beneath the site may give rise to a running sand hazard.

Figure 11



Key to superficial geology

Map colour	Computer Code	Name of geological unit	Composition
	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON
	LOFT-XCZ	LOWESTOFT FORMATION	CLAY AND SILT [UNLITHIFIED DEPOSITS CODING SCHEME]
	CSD-S	COVER SAND	SAND [UNLITHIFIED DEPOSITS CODING SCHEME]
	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
	PEAT-P	PEAT	PEAT [UNLITHIFIED DEPOSITS CODING SCHEME]
	RTD1-XSV	RIVER TERRACE DEPOSITS, 1	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

4.3.3 Rockhead Depth

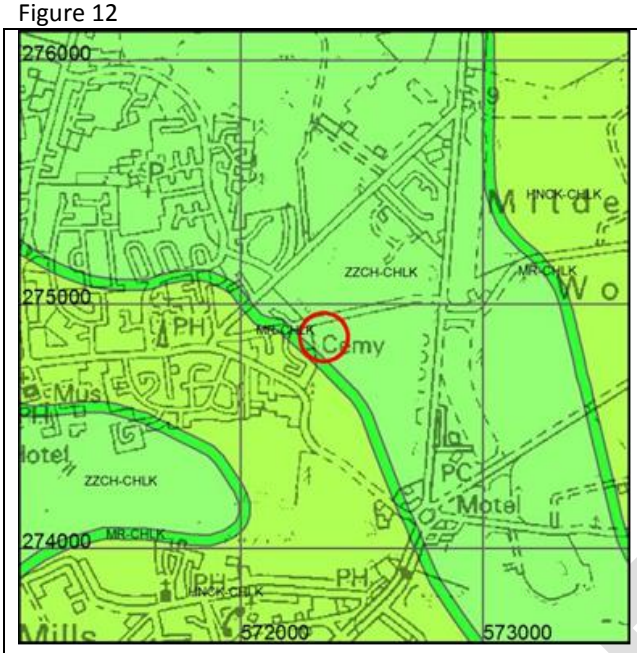
The depth to rockhead is not known with any degree of certainty but is thought to lie between 2 and 9.5 m. However, given the closeness of the site to the mapped margin of the river terrace, the base of the terrace may be irregular and channelled.

4.3.4 Bedrock Geology

Bedrock forms the ground underlying the whole of an area, commonly overlain by superficial deposits, landslide deposits or artificial deposits, in any combination. The bedrock formations were formerly known as the 'Solid Geology'

The site is underlain by the Zig Zag Chalk Formation. This comprises mostly firm, pale grey to off-white blocky chalk and may include beds of marl. It is up to 20 m thick. The Melbourn Rock Member, a c. 3m bed of hard, blocky chalk, has been mapped beneath the river terrace very close to the south western corner of the site. It may occur beneath this part of the site.

Figure 12



Key to Bedrock geology

Coal, ironstone or other mineral vein

Fault

Note: Faults are shown for illustration and to aid interpretation of the map. Because these maps are generalised from more detailed versions not all such features are shown and their absence on the map face does not necessarily mean that none are present. Coals, ironstone beds and mineral veins occur only in certain rock types and regions of the UK; if present here, they will be described under 'bedrock' below.

Key to Bedrock Geology

Map colour	Computer Code	Name of geological unit	Rock type
	HNCK-CHLK	HOLYWELL NODULAR CHALK FORMATION AND NEW PIT CHALK FORMATION (UNDIFFERENTIATED)	CHALK
	MR-CHLK	MELBOURN ROCK MEMBER	CHALK
	ZZCH-CHLK	ZIG ZAG CHALK FORMATION	CHALK

The Chalk is susceptible to dissolution along fractures. Consequent enlargement of the fractures can lead to the formation of cavities, commonly adopting a pipe-like form.

These might remain as partial voids or be progressively infilled with clays, sands or gravels derived from overlying deposits, or from the surface.

These dissolution cavities may be several tens of metres deep. If present, they could induce localised subsidence or unstable foundation conditions, particularly if the infilling material is disturbed, for example by vibration or loading during construction, or by water movement, perhaps after heavy rain or damage to services. Appropriate care should be taken in designing foundations and site drainage. The potential for the hazard to be active is greatest beneath cover of superficial deposits.

The Chalk can be affected by solution phenomena, which can result in the formation of small surface depressions (dolines) that range in size up to 50 m or more across and 6 m deep.

These are generally most common around the boundary between the Chalk outcrops. The depressions are thought to be underlain by 'pipes' in the Chalk filled with material derived from overlying superficial deposits. Such dissolution pipes can be several tens of metres deep. They form sumps for excess surface water, and may give rise to unstable foundation conditions or differential subsidence if local drainage or loading conditions change.

None have been recorded at the site or within the search radius. Both features are unlikely to occur in this area and are unlikely to cause problems in a graveyard. If present, they may result in irregularities to the base of the superficial deposits.

4.4 Additional Considerations

Explanation of hazards (explanations highlighted red are relative to this site).

Mining Hazard
The voids created by underground mining activity may pose a potential hazard to both life and assets, and the associated risk of ground movement can reduce property values. Further, spoil from mineral workings can present a pollution hazard.

Shrinking and Swelling Clays Hazard
A shrinking and swelling clay changes volume significantly according to how much water it contains. All clay deposits change volume as their water content varies, typically swelling in winter and shrinking in summer, but some do so to a greater extent than others. Most foundations are designed and built to withstand seasonal changes. However, in some circumstances, buildings constructed on clay that is particularly prone to swelling and shrinking behaviour may experience problems. Contributory circumstances could include drought, leaking service pipes or tree roots drying-out the ground. Shrinkage may remove support from the foundations of a building, whereas clay expansion may lead to uplift (heave) or lateral stress on part or all of a structure; all such movements may cause cracking and distortion.

Landslide Hazard
A landslide is a relatively rapid outward and downward movement of a mass of rock or soil on a slope due to the force of gravity. A slope is under stress due to the force of gravity but will not move if its strength is greater than this stress. If the balance is altered so that the stress exceeds the strength, then movement will occur. The stability of a slope can be reduced by removing ground at the base of the slope, increasing the water content of the materials forming the slope or by placing material on the slope, especially at the top. Property damage by landslide can occur through the removal of supporting ground from under the property or by the movement of material onto the property.

The assessment of landslide hazard refers to the stability of the present land surface. It does not encompass a consideration of the stability of excavations.

Ground Dissolution Hazard
Some rocks are soluble in water and can be progressively removed by the flow of water through the ground. This process tends to create cavities, potentially leading to the collapse of overlying materials and possibly subsidence at the surface.

Compressible Ground Hazard
Many ground materials contain water-filled pores (the spaces between solid particles). Ground is compressible if a building (or other load) can cause the water in the pore space to be squeezed out causing the ground to decrease in thickness. If ground is extremely compressible the building may sink. If the ground is not uniformly compressible, different parts of the building may sink by different amounts, possibly causing tilting, cracking or distortion.

Collapsible Ground Hazard
Collapsible ground comprises certain fine-grained materials with large pore spaces (the spaces between solid particles). It can collapse when it becomes saturated by water and a building (or other

structure) places too great a load on it. If the material below a building collapses it may cause the building to sink. If the collapsible ground is variable in thickness or distribution, different parts of the building may sink by different amounts, possibly causing tilting, cracking or distortion.

This hazard is likely to be encountered only in parts of southern England.

Running Sand Hazard

Running sand conditions occur when loosely-packed sand, saturated with water, flows into an excavation, borehole or other type of void. The pressure of the water filling the spaces between the sand grains reduces the contact between the grains and they are carried along by the flow. This can lead to subsidence of the surrounding ground.

If sand below a building runs it may remove support and the building may sink. Different parts of the building may sink by different amounts, possibly causing tilting, cracking or distortion.

4.5 Hydrogeology

The generalized description of the sites hydrology is described in Table 4 below.

Table 4

Geological unit	Groundwater potential	Water level and strikes	Quality	*Environment Agency Groundwater vulnerability classification
First River Terrace Deposits	Highly permeable with intergranular water storage and flow	Water level likely to > 3 m of ground surface; trial digs showed no water ingress to depths exceeding 3.5 metres, bore hole water recorded to within 3.8 m after winter	Moderately hard with a total hardness of up to 225 mg/l (as $CaCO_3$), mainly	Minor Aquifer with high soil leaching potential
Zig Zag Chalk Formation	Highly permeable with predominantly fracture flow due to the small pore throat size draining poorly, however water (and contaminants) can be stored in the matrix.		temporary (carbonate) hardness and a chloride ion concentration of less than 25 mg/l. Nitrate may be elevated due to agricultural practices in the area.	Major Aquifer

*In lowland areas of the UK with little topographic variation, groundwater is likely to be found at shallow depths of only a few metres. Water table fluctuations will be small as they will be constrained by the ground surface and the base level of the local perennial streams and rivers.
In upland areas, precipitation is usually high and the dominantly metamorphic and igneous rocks often have relatively shallow groundwater levels.

This is due to preferential groundwater storage in near-surface weathered and fractured zones with limited drainage into the underlying un-weathered lower permeability rock. Exceptions can occur where higher permeability rocks, such as sandstone or limestone, allow faster through flow of groundwater towards the nearest stream or other discharge point.

Perched water tables occur where a less permeable horizon (e.g. a clay layer) in an otherwise permeable sequence retains a body of groundwater above the level of the regional water table. They usually occur at shallow depths in alluvial and glacial sediments and can be difficult to identify or to delimit.

An aquifer becomes confined when it is overlain by a less permeable horizon that restricts the upward movement of groundwater. When this less permeable horizon is penetrated (e.g. by drilling), the groundwater level rises above where struck to a level controlled by the hydrostatic pressure. If this is above ground level, overflowing artesian conditions will be encountered. Confined conditions should be anticipated, where possible, in order to plan for the problems they can generate.

There is no water level information associated with the disused borehole TL77SW8, 100 m to the north-west of the site. However, this source penetrated 13.4 m of glacial clays between sands and gravels and the Chalk.

Borehole TL77SW29, 600 m to the south-east, struck water at a depth of 2.8 m (6 m above OD) in the river terrace deposits and borehole TL77SW116, 300 m to the south, into Chalk below River Terrace Deposits, had a rest water level 2.6 m below surface (7.4 m above OD) in 2003. The regional direction of groundwater flow below the site is likely to be towards the north-west, but may differ on the local scale due to abstractions.

The First River Terrace Deposits and the Zig Zag Chalk Formation are likely to be in hydraulic continuity, unless they are separated by glacial till. In this case the water level in the Chalk would rise above where first struck to its anticipated rest water level of a few metres below surface. The Chalk groundwater would also be harder under these conditions, with a total hardness of up to 400 mg/l (as CaCO3).

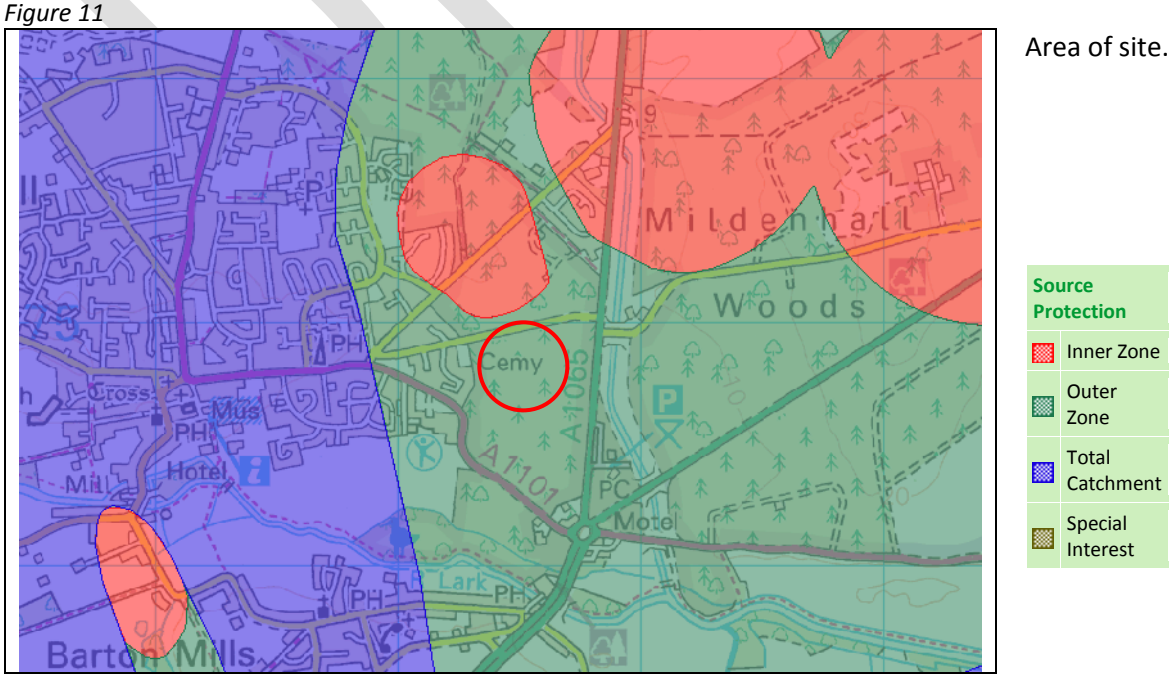
4.5.1 Groundwater Vulnerability

The section below reviews all components of hydrology, geology and top soil surface water drainage to assess risk notably to groundwater.

4.5.2 Source Protection Zones

The map below (Figure 11) illustrates the position of the proposed cemetery relative to current ground water protection zones.

Figure 11



Source Protection Zones (SPZs) provide an indication of the risk to groundwater supplies that may result from potentially polluting activities and accidental releases of pollutants. Generally the closer the activity or release is to a groundwater source the greater the risk. Three zones (an inner, outer and total catchment) are usually defined although a fourth zone (zone of special interest) is occasionally defined.
The Agency has subdivided groundwater source catchments into four zones. Two of these are determined by the travel time of potential pollutants, the third by the source catchment area itself and the fourth is a "Zone of Special Interest". This fourth zone highlights areas where known local conditions mean that potentially polluting activities could impact on a groundwater source even though the area is outside the normal catchment of that source.

- *Zone I (Inner Protection Zone)* **-** This zone is defined by a travel time of 50-days or less from any point within the zone at, or below, the water table. Additionally, the zone has, as a minimum, a 50-meter radius. It is based principally on biological decay criteria and is designed to protect against the transmission of toxic chemicals and water-borne disease.

- *Zone II (Outer Protection Zone)* **-** This zone is defined by the 400-day travel time, or 25% of the source catchment area, whichever is larger. The travel time is derived from consideration of the minimum time required to provide delay, dilution and attenuation of slowly degrading pollutants.

- *Zone III (Total catchment)* **-** This zone is defined as the total area needed to support the abstraction or discharge from the protected groundwater source.

- *Zone of Special Interest* **-** For some groundwater sources an additional Zone of Special Interest may be defined. These zones highlight areas (mainly on non-aquifers) where known local conditions mean that potentially polluting activities could impact on a groundwater source even though the area is outside the normal catchment of that source.

The proposed development site falls within a Source Protection Zone 2.

4.5.3 Aquifer Vulnerability

The Groundwater Vulnerability maps are produced at 1:100,000 scale. They show, by means of colour coding, those areas of the country where water-bearing rocks (aquifers) are present. They also show the vulnerability of groundwater to pollution. The aquifers are classified into major, minor and non-aquifers according to their physical properties and their consequent value as a resource.

The classification of the land surface reflects the ability of contaminants to leach through the covering soils and pose a potential risk to groundwater at depth. The maps also indicate areas where the presence of low permeability drift may provide additional groundwater protection.

These maps can therefore be used for an initial screening assessment of the vulnerability of groundwater to contaminants applied to the surface of the ground. They do not provide all information relevant to the determination of vulnerability, such as the depth to water table or nature of the drift deposits. Site-specific information would always be needed for a detailed assessment of vulnerability at a given location. The original groundwater vulnerability maps were produced some time ago.

Groundwater Vulnerability Maps provide information on how significant the groundwaters are likely to be and if they are vulnerable to pollution occurring at the land surface. The maps have descriptions on them to explain the different aquifer and soil types. Areas shown as "major aquifers" have strategic significance for water resources, they often support large abstractions for the public water supply.

Minor aquifers have a more localised significance to domestic, agricultural and industrial users (although they may still be used for drinking water). Non-aquifers do not store significant amounts of groundwater. However, in some areas they can support local supplies: e.g. small springs feeding individual properties.

Figure 12

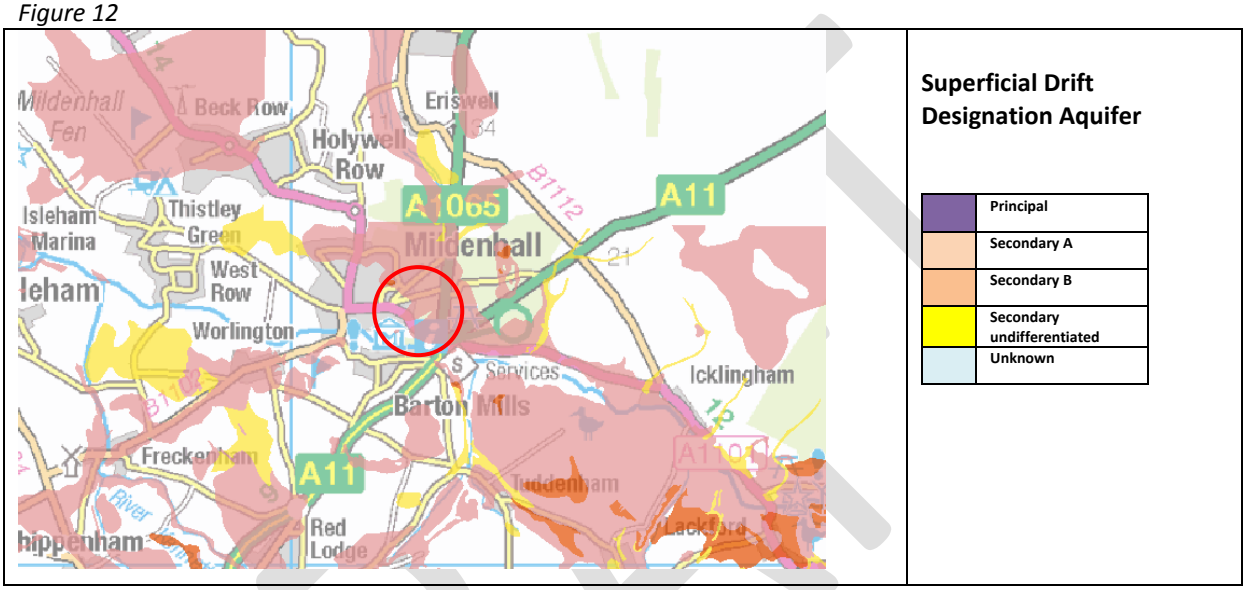


Figure 13

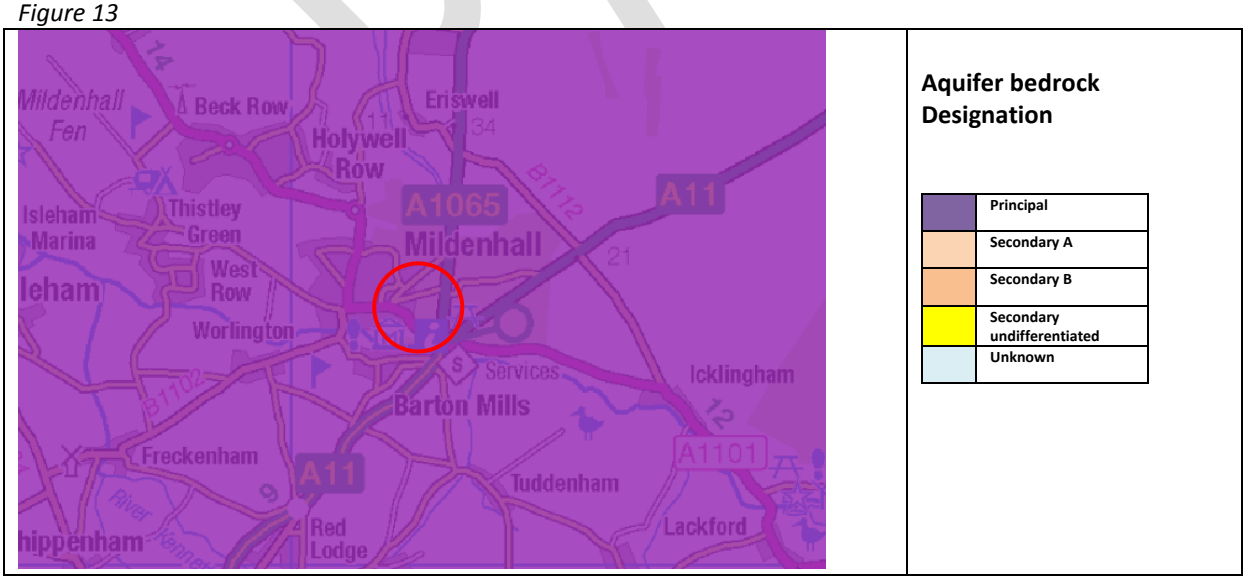
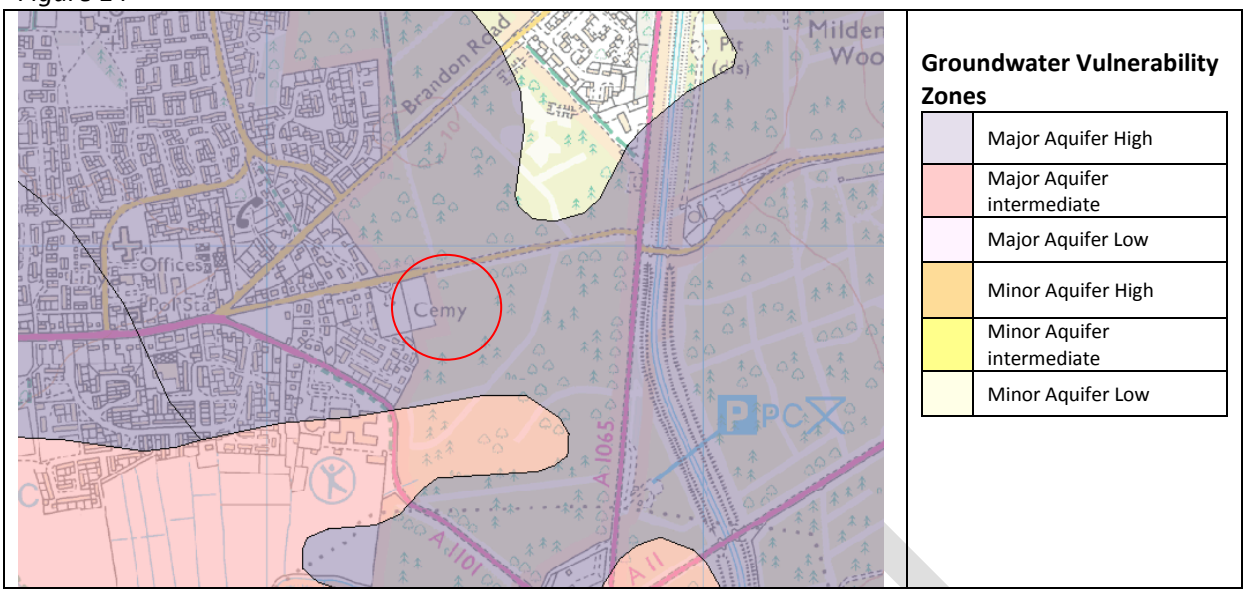


Figure 14



Groundwater Vulnerability Maps provide information on how significant the groundwater is likely to be and if they are vulnerable to pollution occurring at the land surface. The maps have descriptions on them to explain the different aquifer and soil types.

Areas shown as "major aquifers" have strategic significance for water resources; they often support large abstractions for the public water supply. Minor aquifers have a more localised significance to domestic, agricultural and industrial users (although they may still be used for drinking water). Non-aquifers do not store significant amounts of groundwater. However, in some areas they can support local supplies: e.g. small springs feeding individual properties.

Major and minor aquifers may be important in contributing to the base-flow of streams and rivers. The maps show where groundwater is protected from above by rocks with a low permeability, such as glacial clay. They also show the characteristics of the soil above.

Superficial drift deposits which overlie the solid geological strata can sometimes be substantial in thickness. They are often variable in composition changing from highly permeable outwash gravels to low permeability clays over short distances both laterally and vertically. The presence of permeable drift deposits is recognised as Minor Aquifers except where these overlie a Major Aquifer and they then assume the status of a Major Aquifer.

The groundwater beneath the site is designated as a Principal Aquifer.

With regard to GWV, the site is deemed to be sited over a major aquifer of high leaching potential.

4.5.4 Flood Risk

The Environment Agency maps Figure 13 and 14 below illustrate any potential risk from flooding, even in circumstance of extreme flood conditions. The site is not at risk of fluvial flooding as it is located in Flood Zone 1 which is low risk. However, if you are introducing large areas of impermeable surfaces e.g. buildings, roads on a green field site, you will need to undertake a surface water flood risk assessment.

Figure 13

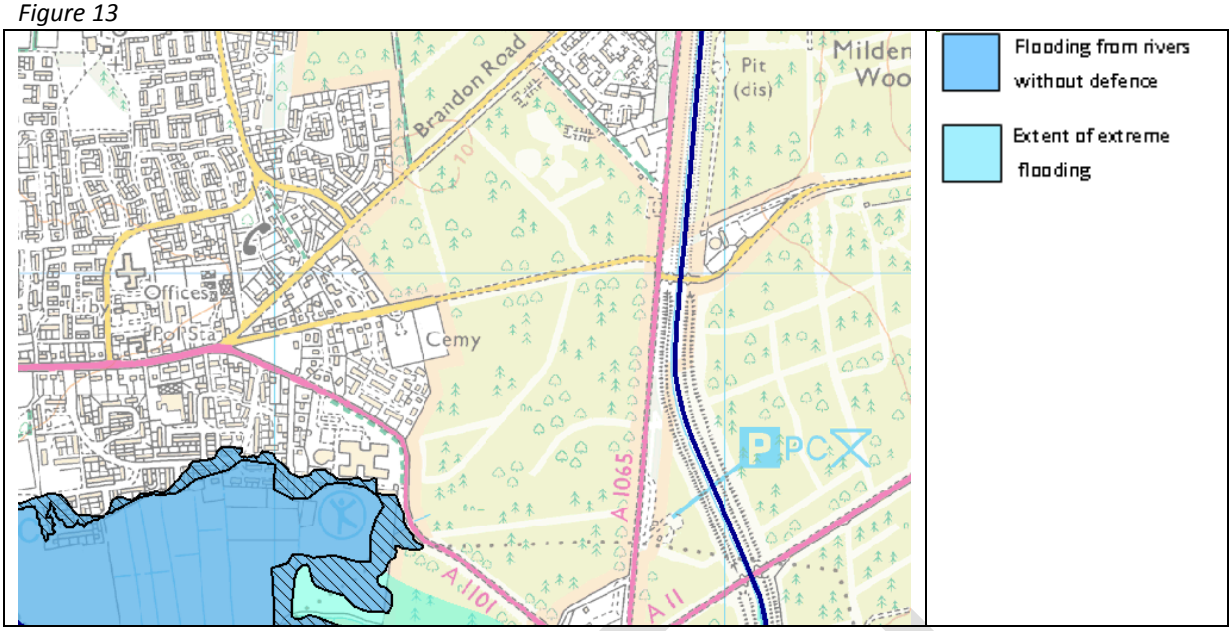
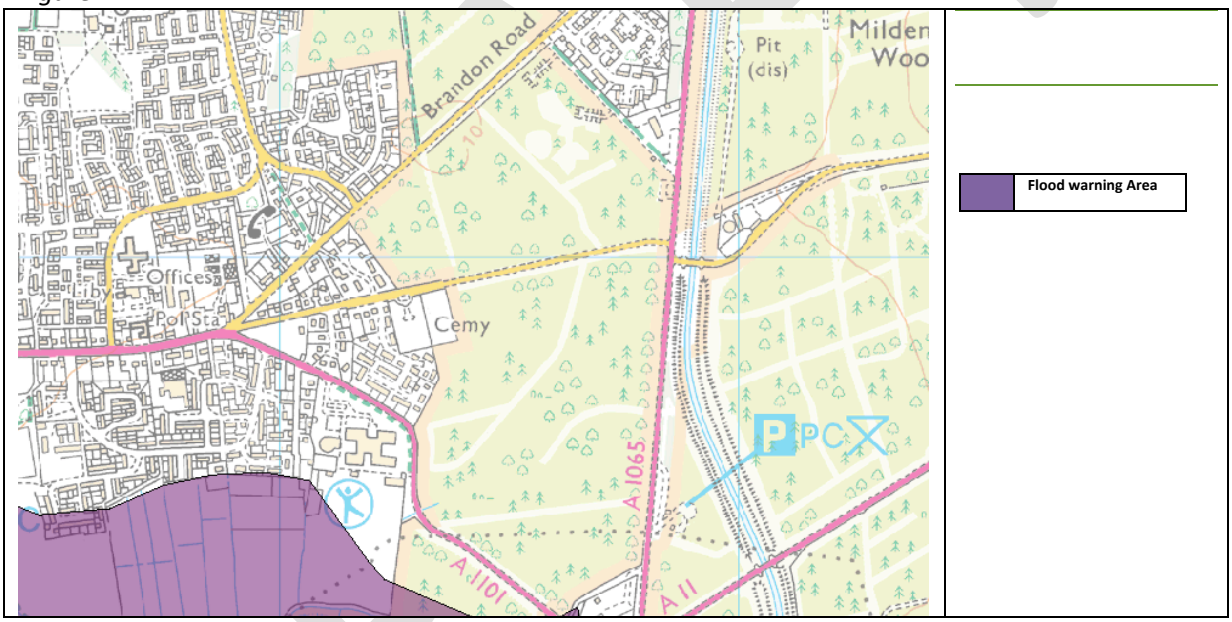
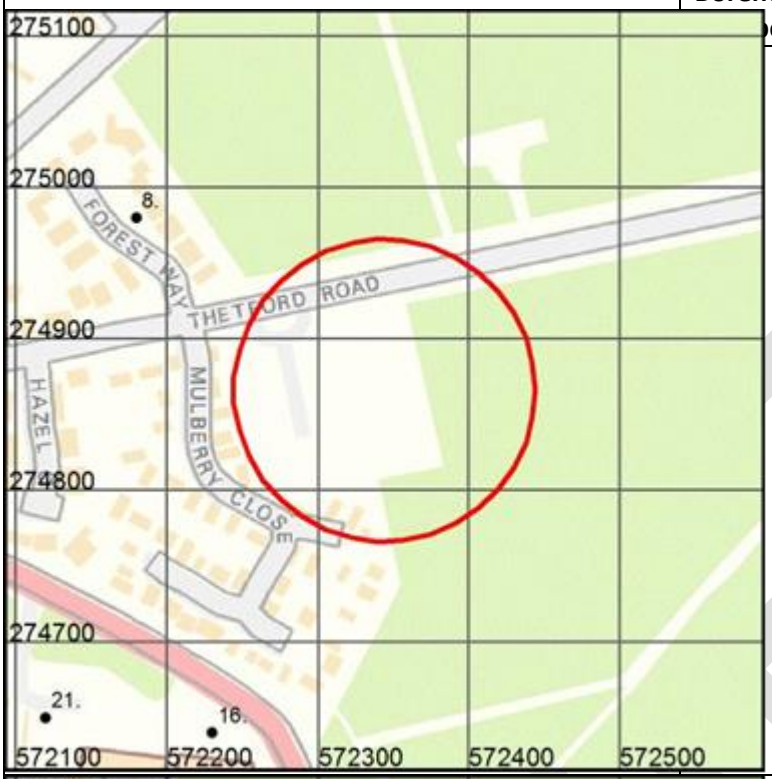


Figure 14



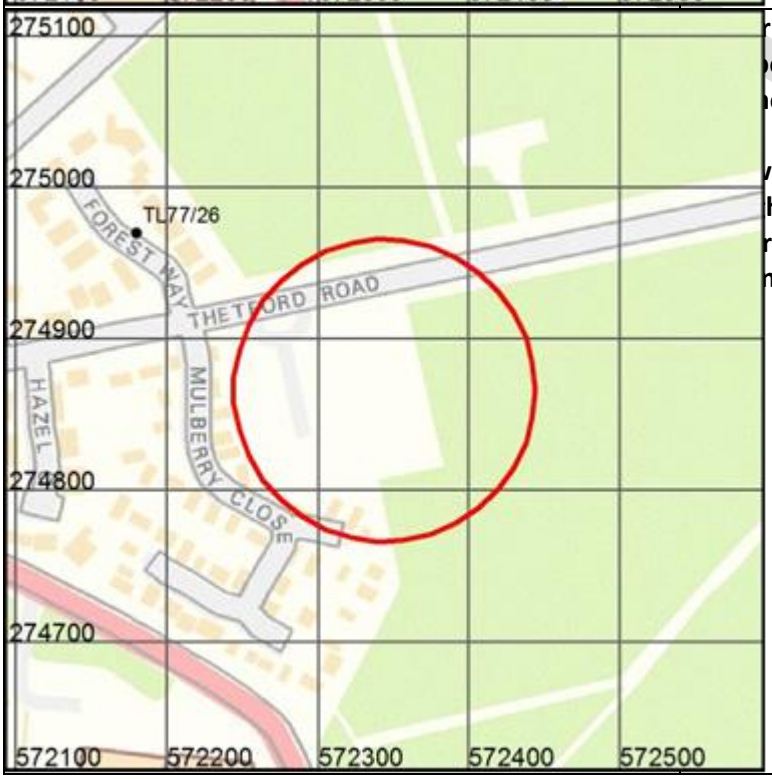
4.5.5 Wells and Potable Water Supplies

Figure 15



Borehole records

er of records in map area: 0



r Well records

er of records in search area within
etres of site: 1

ell originally feeding a saw mill is
ht to be redundant since the site has
redeveloped for modern residential
ng

4.6 Meteorological data

The agroclimatic index number for this site is 28n with a mean annual rainfall of 574 mm.

5.0 Pollutant Risk

Due to the (15 per annum) number of full burials at the site, the cumulative ammoniacal nitrogen concentrations are likely to be moderate with equally moderate levels of total organic compounds (TOC).

5.1 Pathogens

There has been some evidence from recent studies of the occurrence of Enterococci and Clostridium bacteria found in drainage water.

Enterococci are bacteria that are commonly found in the bowel of normal healthy individuals. They can cause a range of illnesses including urinary tract infections, bacteraemia (blood stream infections) and wound infections.

The two most common species of Enterococci are E. faecalis and E. faecium. During the mid-1980s, enterococci with resistance to glycopeptide antibiotics such as vancomycin and teicoplanin emerged, termed glycopeptide-resistant enterococci (GRE). Most GRE are E. faecium.

Clostridium perfringens is widely distributed in the environment and foods, and forms part of the normal gut flora in man and animals. Spores of Cl. perfringens survive cooking and, during slow cooling and unrefrigerated storage, germinate to form vegetative cells. Under optimal growth conditions the organism has a generation time of 10 to 12 minutes, and gastroenteritis often follows ingestion of food containing large numbers of vegetative cells. Clostridium perfringens is also a causative agent of gas gangrene.

Due to the nature of the soil and geomorphology, there may be some movement of pathogenic organisms, notably Pseudomonas aeruginosa and Faecal streptococci, which may leach because of the high hydraulic conductivity within the sands, they may also become mobile if saturated flow conditions exist. However, they are short lived away from the host and as there is no immediate ground water risk or potable well supply, the risk may therefore be considered acceptably low.

With the existing soil conditions, oxidative decomposition is likely to be moderate to fast, decay may be predominantly through oxidation and any pathogens are likely to be destroyed by the high pH values.

6.0 Depth of Burial

From the evidence of site borehole water levels and elevations water may rise within 4 to 6 meters at the northerly end of the site.

7.0 Archaeology

Prior to works commencing, it is recommended to consult with the county archaeological team to ascertain any archaeological interest in the area.

8.0 Risk Evaluation

The information below summarises the risks associated with the site and possible mitigation options open.

8.1 Assessment of General Hazards

The table (Table 5) below illustrates the potential hazards likely to be encountered at this site.

Table 5

Geological hazard	May be significant within site area (Yes/No)?	Comments
Potential Natural Ground Stability Hazards		
Shrink-Swell	N	The potential for hazard to be active either zero or insignificant.
Landslides (slope instability)	N	The potential for this hazard is not significant and is at a level such as to cause problems only in exceptional circumstances.
Soluble Rocks (dissolution)	N	The potential for hazard to be active either zero or insignificant.
Compressible Ground	N	The potential for this hazard is not significant and is at a level such as to cause problems only in exceptional circumstances.
Collapsible Deposits	N	The potential for this hazard is not significant and is at a level such as to cause problems only in exceptional circumstances.
Running Sand	Y	The potential for this hazard is significant and is at a level such as to cause problems during excvations
Other Potential Ha□ards		
Mining	N	The potential for this hazard is not significant and is at a level such as to cause problems only in exceptional circumstances.
Flooding	Y	The site is on First River Terrace Deposits that lie 2 to 3 m above the river valley. As such it may be a flooding risk
Natural Land Gas	N	Unlikely to encounter gas from bedrock and coal mining; unlikely to encounter gas from peat.
Radon		Level of protective measures: NO

Table 6 below assesses the potential of a number of pollutant pathways and the degree of associated risk assessed numerically on a 0-10 score with 10 being of the highest risk. From the resultant data, the final values are assessed against burial number and a determinant of risk calculated from EA flow charts and nomographs.

Table 6

Risk	Assessment High, Intermediate, Low	Comment	Score
Burials per annum	Moderate	Expected to be 15 per annum	
Drift / superficial data	High	River terrace deposits 3- 6 m thick	8-7
Drift thickness	Low		4-3
Proximity to water course	Low	Closest water course stream in hydraulic continuity to River lark 600 m away.	6-5
Proximity to land drains	V Low	None found	2-1
Depth to Water Table	High	Water table thought to be at 4 meters below ground level in southern western end of site but 6 m to northern eastern end	8-7
Proximity to Wells or potable water source	V Low	Well falls > 250 m from site	2-1
Flow mechanism	Moderate	Intergranular sand	6-5
Aquifers	V High	Principal Aquifer in Chalk	10-9
SPZ	High	The site for development falls within SPZ 2	8-7
Met data	Low	Annual rainfall moderate	N/A
Proximity to housing	Low	Residential housing in close proximity of the site	N/A
SSSI	Low		N/A
Archaeology	Low	None observed but will require district archaeologist assessment	N/A
		Total	**54-45**

The above table is assessed using the groundwater vulnerability-ranking table below. The total score comes to 54-45 and is considered Moderate to High risk. However, these data are then assessed against the burial rate of 15 per annum on the groundwater risk nomograph p.37 of PP223.

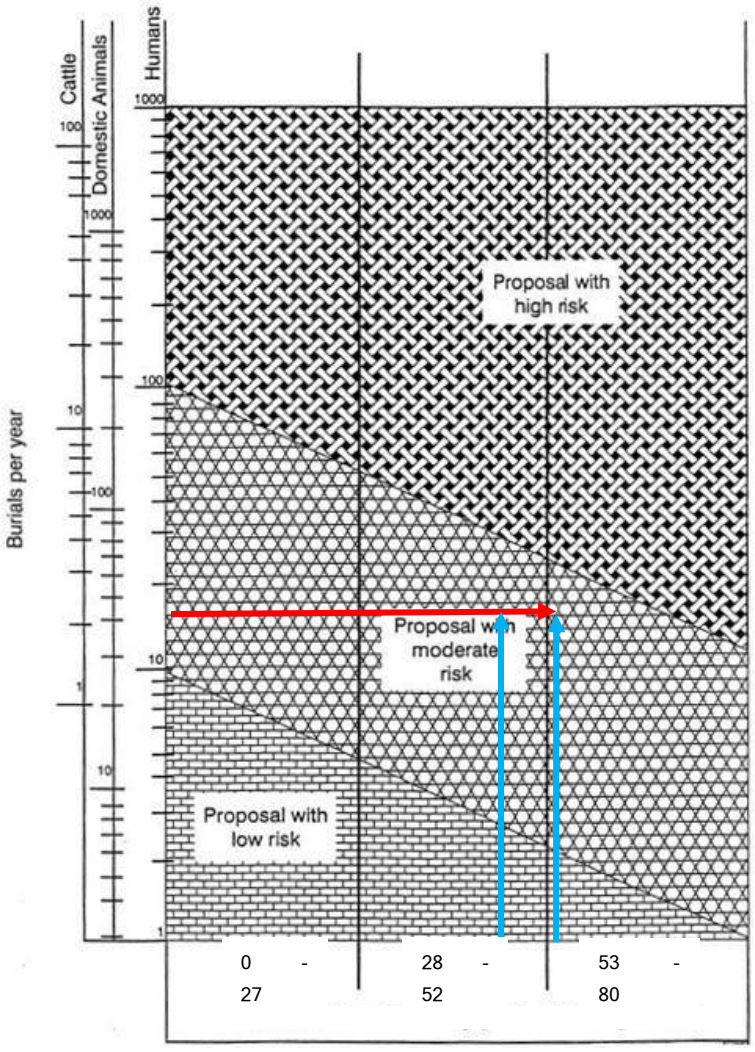
The final assessment of risk for this site according to the nomograph Figure 16 below, would class it as being of Moderate risk due to the number of burials circa 15.

8.2 Groundwater ranking

Table 5

Ranking	Very Low 2-1	Low 4-3	Moderate 6-5	High 8-7	Very High 10-9
Drift Type	Clay	Silt	Silty sand	Sand/gravel	Absent
Drift Thickness	>5 m	>3-5 m	3 m	0-3 m	Absent
Depth to water Table	>25 m	11 – 25 m	10 m	5 – 9 m	<5m
Flow mechanism	Intergranular				Fissured
Aquifer type	Non Aquifer		Minor aquifer		Major aquifer
Abstractions and SPZs	Outside Zone 3	Within Zone 3	Close to boundary of Zone 2	Within Zone 2	Within Zone 1 or 250 meters from private potable supply
Water courses and springs		>100 m	>50 <70 m	>30 <50 m	<30 m
Drains	>100 m	>40 <100 m	30 – 40 m	>10 <30 m	<10 m

Figure 16



9.0 Mitigation

With the coarse sands and gravels there may be poor attenuation between base of grave and any protected ground or surface waters within the chalk aquifer, the following mitigation options could provide further reductions in leachate concentrations.

9.1 Zeolitic Compounds

It is understood that the sandy clay loam soils found at the site have a low CEC. The use of zeolitic compounds such as clinoptilolite or bentonite clays with CEC values exceeding 150 meq/l will absorb significant nitrogen elements in the form of leachate. (Pivato et al Waste Management Review 2004) (Rozic et al 2009 Bioinformatics)

Calculations would suggest that at least 90% of the human nitrogen (1.8kg) released could be absorbed by 150kg of clinoptilolite or a high CEC clay material such as bentonite.

These materials can be placed at the bottom of graves at the time of opening pre-interment to act as an extended attenuation layer providing further protection to groundwater and increasing the breakthrough period.

9.2 Dilution

Reducing burial density temporally and spatially will increase the volume of dilution and thus reduce the mean concentration of NH_4.

The cemetery therefore may wish to consider having a number of sections for burial operating in sequence to spread the burials around the cemetery during the year.

10.0 Conclusion

Following the site observations and detailed desk analysis, our conclusion is that the site in its current state, poses a moderate to high risk to controlled waters as assessed under EA current guidelines. This is mainly due to the moderate burial number circa 15 per annum.

However, with at least 3.8 metres between base of grave and any anticipated ground water strikes, we feel that, given suitable attenuation, this could be achieved within the superficials and addition of zeolitic compounds

There are no wells or water courses, but the site sits within source protection zone 2 up gradient of an abstraction point within the development location, this may deem to make the site a risk to potable or surface water supplies.

Furthermore, with the adoption of the mitigation options above, we see that the overall risk is likely to be significantly lower than that determined by the qualitative approach to the risk calculations.

11.0 Reportage details

Report Authors:	Justin Smith; CDSL Philip Lewis; LMB GEO SOLUTIONS LTD
Verification:	Dr Mike Hann CDSL
Date:	31st March 2014

Cemetery Development Services - Terms and Conditions

Cemetery Development Services (CDS)
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
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 30 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.

Rights in Input Material and Output Material

The property and any copyright or other intellectual property rights in:
any Input Material shall belong to the Client
any Output Material and any amendments or variations to the Input Material made by CDS shall, unless otherwise agreed in writing between the Client and CDS, belong to CDS, subject only to the right of the Client to use the Output Material for the purposes of utilising the Specified Service.
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.

EVANS JONES

Surveyors & Planning Consultants

Project Management

Planning Consultants

Building Surveyors

Disabled Access Consultants

Access Audit

Mildenhall Cemetery Toilet Block
Thetford Road
Mildenhall
IP28 7HX

Prepared on Behalf of:
Mildenhall High Town Council

Ref: 15516

Date: 10th March 2021

Evans Jones Ltd, Royal Mews, St Georges Place, Cheltenham, Glos GL50 3PQ
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A Executive Summary

A1 The toilet block is dated and offers no specific facilities for disabled users.

The lack of an accessible toilet will pose a significant barrier to some disabled users and will make it very difficult for some to attend the site for anything more than a short visit making services a particular issue.

The block does have sufficient space to convert a part into an accessible cubicle and we suggest this option is pursued if you intend to retain the existing block.

B Introduction & Methodology

B1 Brief & Aims of Report

B1.1 The following report is an assessment of Mildenhall Cemetery Toilet Block against the criteria set out in Section B3 below.

B1.2 The main purpose of the report is to ensure that the property meets with the requirements of Section 3 of The Equality Act 2010 (hereafter referred to as 'The Act') and so does not discriminate against disabled people.

B1.3 In order to achieve this the report will identify where the property does not meet current best practice standards and will recommend ways to overcome these issues which may incorporate adjustive works, changes to management policies and procedures or a combination of the two.

B1.4 These recommendations will be considered in terms of their reasonableness given the individual context and circumstances relating to the property.

B1.5 In order that you can plan these works in an informed and strategic manner each recommendation has been given a priority rating and cost banding to aid you in your own planning.

B2 Legislation

B2.1 As a Public Body the Disability Equality duty will apply to all of your functions including this property.

B2.2 Sections 3 and 5 of the Act will apply to the property. The obligations under each section are outlined below:

Part 3 - Service Provision

B2.3 This section relates to service provision to members of the public.

B2.4 Under this section it is illegal to discriminate against a disabled person and the service provider is obliged to make reasonable adjustments to make their service

accessible to members of the public. These may include physical adjustments or adjustments to policies, practices or procedures to overcome barriers to access.

B2.5 This is a proactive duty so the service provider is obliged to anticipate the service of a disabled person and make adjustments in advance.

Part 5 - Employment

B2.6 As an employer it is illegal to discriminate against a disabled people in terms of employment, which may involve making reasonable adjustments to policies, practices or procedures or physical alterations to premises.

B2.7 This is a reactive duty. There is no obligation to take anticipatory steps to make a site accessible but rather to make reasonable adjustments for the individual disabled person.

B2.8 This being said, it is prudent to incorporate accessibility into any refurbishment of staff areas.

Section 149 - Equality Duty

B2.9 As a public body you are also obliged to eliminate unlawful discrimination, promote equality and to foster good relations between disabled and non-disabled people.

B2.10 This applies to everything you do including the way you deliver your services using your buildings.

B2.11 The findings or our audit and in particular the prioritisation of recommendations should be reviewed against your own Equality Policy and how it relates to buildings.

B2.12 As an example it may be that, depending on your policy, you choose to bring forward recommendations which, through your duties under other sections of the Act we have categorised as longer term priorities. Staff only areas may be a good example of this.

B3 Criteria

B3.1 The following documents have been used as the criteria against which the premises will be audited.

- Equality Act 2010 (Replaces Disability Discrimination Acts 1995 & 2005)
- Equality Act 2010- Code of Practice on Services, Public Functions and Associations (2011 edition).
- BS8300-1-2018 -Design of an accessible inclusive built environment - Part 1 External Environment Code of Practice
- BS8300-2-2018 - Design of an accessible inclusive built environment - Part 2 Buildings Code of Practice

- The Building Act 1984, Approved Document M 2015 Edition Volume 2 - Access to and use of buildings, volume 2: buildings other than dwellings
- BS9999:2017 Code of Practice for fire safety in the design, management and use of buildings.

B3.2 All recommendations made in this report shall, as far as possible meet the guidance set down in the criteria documents. However, due consideration will be given as to whether the alterations are "reasonable" as set out in the Act and the Codes of Practice arising from it.

B4 Scope

B4.1 Although we have included the Code of Practice for Means of Escape for Disabled People within our criteria this report should not be considered as a detailed assessment of the overall means of escape provision, which should be included in the Emergency Evacuation Plan.

B4.2 Plant rooms, workshops, stores and machinery rooms are excluded from our inspection.

B5 How to Use this Audit

B5.1 Section D sets out our approach to the audit and outlines the relevant legislation. This forms the basis of our report and puts our findings into context, it is important that this is read and absorbed prior to considering our findings within Section E.

B5.2 The Audit findings list our recommendations in short form with each allocated a priority rating and cost banding/budget cost. These recommendations should form the basis of your programme of adjustive works, Access Action Plan or Accessibility Plan.

B5.3 These recommendations are supported by more detailed discussion under the heading 'Issue' to:

1. explain why a recommendation has been made
2. justify why no action has been taken where a problem exists
3. give the reader an insight into the problems disabled people face in accessing the site
4. provide more detail and further guidance as to how the recommendations should be implemented

B5.4 In order to gain a full understanding of our recommendations Section E should be read in detail.

B6 Taking Action on the Results

B6.1 This audit should be seen as the first step towards making the property more accessible to its disabled users. If no action is taken on the results you will be

discriminating against disabled users and consequently will be at increased risk of claims for compensation.

B6.2 The recommendations of this audit have been prioritised and allocated costs in order to allow you to form a long-term strategy for their implementation. This strategy should then be integrated into your current maintenance, refurbishment and capital works programmes.

B6.3 By doing this you will avoid compromising the recommendations of the report with maintenance, refurbishment or capital projects and therefore are likely to save money by avoiding costly mistakes which may require rectification at a later date.

B7 Statutory Consents

B7.1 Unless informed otherwise we have assumed that the site has no particular restrictions on development other than the usual Planning and Building Regulation requirements.

B7.2 Where you choose to implement the work outlined in our report we recommend that you take further advice as to the application of Planning or Building Regulations prior to proceeding.

B7.3 As Surveyors and Planning Consultants Evans Jones can offer this advice as a separate service. Alternatively we recommend that you contact a Chartered Surveyor (RICS), Planning Consultant (MRTPI) or Architect (RIBA) for this advice.

B7.4 Evans Jones Ltd accept no liability where you proceed with works without seeking such advice.

B8 Alternative Format

B8.1 Copies of this report are available in alternative formats upon request.

B8.2 Please contact us to discuss your individual requirements.

C The Site

Address: Mildenhall Cemetery Toilet Block
Thetford Road
Mildenhall
IP28 7HX

Date: 10th March 2021

Contact: Mark Knight

Location: The site is set in a suburban area and thus is generally surrounded by open land.

Given the location and usage of the site we find it likely that users will arrive here by private vehicle or taxi.

Conditions: The weather at the time of our inspection was fine and bright with no rain. It was mild.

Our inspection was carried out during daylight hours

D Context of Site and Approach to Audit

D1 We are not party to your resources or any budgets allocated to the site thus when considering the test of reasonableness we have assumed that a fair amount of resources are available to fund adjustive works.

D2 Your on site staff mentioned that there are plans to replace this block but this was not confirmed. Clearly if you intend to replace the block in the forseeable future it is unlikely to be reasonable to complete any adjustive works to it.

E Audit Findings

E1 Key to Priority and Cost Bandings

Priorities	Description	Cost Bandings
1	Urgent, low cost or immediate health and safety risk to a disabled user	A £0 - £500
2	As soon as possible (Should not wait til next refurbishment/maintenance cycle)	B £500 - £2500
3M	As part of ongoing maintenance programme	C £2500 - £5000
3R	As part of next refurbishment	D £5000 - £10000
4	When a specific need is identified	E £10000+
EXP	Further specialist advice required	

Photo	Item	Issues	Recommendations	P	£
	1.0	**Approach**			
	1.1	The path around the building is less than 900mm wide in places making it difficult to use by a wheelchair user. This may be a consideration if you intend to install an accessible cubicle. A path of at least 1200mm in width will be suitable for most wheelchair users. Whether you widen the path will depend on where you site the accessible cubicle.			
	2.0	**Accessible Toilets**			
	2.1	No accessible cubicle is provided. This may make it difficult for some disabled people to visit the site, particularly for a service where they may be on site for a longer time period. There is sufficient space within the covered shelter to create a corner layout cubicle. Best practice recommends clear dimensions of 2200 x 1700mm. A reduced width of 1500mm will still likely be suitable for the majority of users.	Convert shelter into accessible cubicle	**2**	**D**
	3.0	**Entrances**			

Photo	Item	Issues	Recommendations	P	£
  	3.1	There are steps up of around 230mm to the toilets posing an impassable barrier to a wheelchair user. Whilst there is space to create an external ramp there is little point in doing so as the cubicles are not of accessible standard. If an accessible cubicle is created we suggest external ground to the front of the building is re-graded to create a gently sloping approach set no steeper than 1:21.	Create gently sloping approach to accessible cubicle	**2**	**A**

Photo	Item	Issues	Recommendations	P	£
	3.2	The entrance doors achieves a clear width of only 710mm making them difficult to pass by many wheelchair, crutch and frame users. Best practice recommends a clear width of 800mm for new entrance doors. If an accessible cubicle is created this is largely irrelevant.			
	4.0	**Standard Toilets**			
	4.1	The sanitaryware and fittings are poorly contrasted making them difficult to identify by a visually impaired user. This should be addressed when next refurbishing this area.	Improve contrast of sanitaryware and fittings	**3R**	**A**
	4.2	Basins are fitted with knob taps which will prove difficult to grip and turn by someone with impaired dexterity to the hands such as an elderly person with arthritis to the hands.	Replace knob taps with lever taps	**3M**	**A**

Photo	Item	Issues	Recommendations	P	£
	4.3	Cubicle doors are poorly contrasted against wall surfaces making the openings difficult to identify by a visually impaired person. This can be addressed by painting the walls, architraves or doors in a contrasting colour. A 30 point difference in light reflectance values of adjacent surfaces should be achieved. These values are readily available from paint suppliers.	Improve contrast of cubicle door openings	**3R**	**A**
	5.0	**Gardens and Grounds**			
	5.1	All other parts of the cemetery are outside of our scope.			

F Useful Organisations

Useful Organisations

Equality and Human Rights Commission

EHRC

3 More London

Riverside

Tooley Street

London

SE1 2RG

Tel: 0845 604 6610

Textphone: 0845 604 6620

Web: www.equalityhumanrights.com

RADAR - Royal Association for Disability and Rehabilitation

12 City Forum

250 City Road

London EC1V 8AF

Tel: 020 7250 3222

Fax: 020 7250 0212

Minicom: 020 7250 4119

Royal National Institute for the Blind

RNIB Customer Services

PO Box 173

Peterborough PE2 6WS

Tel: 0845 702 3153 - for the price of a local call

Minicom 0845 -58 56 91

Fax. 01733-37 15 55

RNIB Helpline

Tel. 0845-766 99 99 (UK Helpline callers only)

Tel. 020-7388 1266 (switchboard/overseas callers)

Fax. 020-7388 2034

Interpreters available

Textphone users call via Typetalk 0800-51 51 52

Action For Hearing Loss

Head Office

1-3 Highbury Station Road,

London,

N1 1SE

Tel: 020 7359 4442

Textphone: 020 7296 8001

Information Line

Tel: 0808 808 0123 (freephone)

Textphone: 0808 808 9000 (freephone)

SMS: 0780 000 0360

E-Mail: informationonline@hearingloss.org.net

Disabled Living Foundation

380 - 384 Harrow Road

London.

W9 2HU

Tel: 0845 130 9177

Minicom 0870 603 9176

email: info@dlf.org.uk

Web: www.dlf.org.uk

G Glossary of Terms

Glossary of Terms

Ambulant	Disabled person who can walk.
BSL	British Sign Language
CIBSE	Chartered Institution of Building Service Engineers
Coir Matting	Matting formed form coconut fibres
Corduroy Landing	Ribbed floor surface which gives warning to visually impaired person as to the position of stairs.
Door Furniture	Door handles, Knobs etc
DTLR	Department for Transport, Local Government and the Regions
Embossed	Symbols or lettering which stands proud of a surface
Gradient	Slope of a ramp or other surface
Induction/ Hearing Loop	Device which converts your voice into a radio or infra-red signal and transmits this direct to a person's hearing aid, or separate receiver, where it is converted back to sound.
Inductive Coupler	In simple terms, an induction loop fitted to a phone.
Illuminance	The light projected onto a surface measured in Lux.
Lever Furniture	Door Handles
Manifestation	Marking to make an object or feature more visible i.e. marking to a glass door or window.
Nosing	Edge of a step tread
Open riser steps	Steps where there is no material in-filling the gap between treads
Rollover Threshold	Door threshold plate with gently sloping edges to allow easy passage by a wheelchair user.