



MELTON BOROUGH COUNCIL
NEW PUBLIC TOILET FACILITIES

PRE-CONSTRUCTION INFORMATION

April 2017



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Approved For Issue

Director: S Kenna BSc (Hons) MRICS

Date: 21st April 2017

1.0 INTRODUCTION

- 1.1 Under the Construction (Design and Management) Regulations 2015 ('CDM 2015'), it is a requirement that clients provide Pre-construction Information ('PCI') as soon as is practicable to every Designer or Contractor appointed, or being considered for appointment, to the project.
- 1.2 Where there is more than one contractor, the Principal Designer should provide advice and help compile this PCI and provide it to the designers and contractors.
- 1.3 The CDM 2015 define PCI as information in the client's possession or which is reasonably obtainable by or on behalf of the client, which is relevant to the construction work and is of an appropriate level of detail and proportionate to the risks involved, including information about:
- The project;
 - Planning and management of the project;
 - Health and safety hazards, including design and construction hazards and how they will be addressed; and
 - Information in any existing health and safety file.
- 1.4 This PCI has been developed from the pre-construction information provided by the Client, Designers and other parties involved with the project, and will be further developed throughout the pre-construction phase. All persons involved with the project will be made aware of the availability of this plan and its contents.

2.0 DUTY HOLDERS AND ROLES AND RESPONSIBILITIES

2.1 Duty Holders

2.1.1 The following are identified as duty holders under CDM 2015:

- Client;
- Principal Designers;
- Designers;
- Principal Contractors; and
- Contractors.

2.2 Client's Role and Responsibilities

2.2.1 The client is required to:

- Ensure that suitable arrangements are made by them for managing a project, including the allocation of sufficient time and other resources.
- Confirm that people and organisations appointed by them have the necessary skills, knowledge and experience to carry out the work in a way that secures health and safety.
- Ensure that the construction work can be carried out, so far as is reasonably practicable, without risks to the health or safety of any person affected by the project.
- Ensure that suitable welfare facilities are provided.
- Provide pre-construction information to every designer and contractor appointed or being considered for appointment.
- Ensure that the contractor or Principal Contractor prepares a Construction Phase Plan before construction begins.
- Where applicable, appoint in writing a Principal Designer and a Principal Contractor as soon as is practicable and before the construction phase begins. (Note that these roles default to the client if no appointments are made).
- Ensure that the Principal Designer prepares a Health and Safety File (for projects involving more than one contractor).

2.3 Principal Contractor's Role and Responsibilities

2.3.1 A Principal Contractor must be appointed where there is more than one contractor working on a project or where the project is notifiable. The Principle Contractor's duties are as follows:

- Plan, manage and monitor the construction phase and coordinate matters relating to health and safety during the pre-construction phase to ensure that, so far as is reasonably practicable, the project is carried out without risks to health or safety.
- Organise cooperation and coordination between contractors.
- Ensure that site inductions are provided.
- Prepare the Construction Phase Plan.
- Ensure that necessary steps have been taken to prevent access by unauthorised persons to the construction site.
- Ensure that suitable welfare facilities are provided throughout the construction phase.
- Liaise with the Principal Designer for the duration of the Principal Designer's appointment and share with them relevant information.
- Where the Principal Designer's appointment does not extend to the end of the project, hand over the Health and Safety File to the client.

2.4 Contractor's Role and Responsibilities

2.4.1 Contractors are required to:

- Confirm that the client is aware of the client's duties under CDM 2015.
- Plan, manage and monitor their own work and that of their workers.
- Comply with directions given by the Principal Designer and the Principal Contractor (when such appointments apply).
- Prepare the Construction Phase Plan (where there is no Principal Contractor).
- Check that any appointee has, or is in the process of obtaining, the necessary skills, knowledge, training and experience.
- Provide each worker under their control with appropriate supervision, instructions and information.
- Not begin work on a construction site unless reasonable steps have been taken to prevent access by unauthorised persons to that site.
- Ensure that suitable welfare facilities are provided.

2.5 All Parties

2.5.1 More generally, CDM 2015 imposes duties as follows on everyone involved in the project to:

- Be able to demonstrate they have the necessary health and safety skills, knowledge and experience to carry out the work.
- Co-operate with others involved with the project or any project on an adjoining site.
- Report instances where they or others are working in a way that puts them or anyone else in danger.
- Where they are required to provide health and safety information or instructions to anyone else, to ensure that this is easy to understand and is provided in a timely manner.

3.0 PROJECT DESCRIPTION

3.1 Location of the site / Description of the Building

3.1.1 The project covers two separate sites within the town centre of Melton Mowbray, Leicestershire.

Site Addresses

Wilton Road Public Car Park

Wilton Road

Melton Mowbray

Leicestershire

LE13 0UJ

St Mary's Way Public Car Park

St Mary's Way

Melton Mowbray

Leicestershire

LE13 1YE

3.1.2 The sites are located within public car parks with a mixture of surrounding land uses including retail, public houses, recreational space and public amenities. The works are as indicated within the specification in Document 2 including the contract drawings. The sites will be partially occupied during the course of the works, with a maximum number of public car park spaces being made available for the duration of the works.

3.1.3 The site at St Mary's Way provides shared access with adjacent businesses which back on to the car park site. Full access must be made available for deliveries, most notably the Argos retail store which has a loading bay in close proximity. Wilton Road Car Park also provides a taxi rank and coach park which must be carefully considered when planning the works as not to adversely impact on their ongoing operation and use.

3.2 Nature of construction work to be carried out

3.2.1 The works involve the construction of new public toilet facilities on two separate sites. The buildings are single storey and provide three WC's each, with an area for maintenance / servicing. There are currently existing public toilet facilities at St Mary's Way public car park which will be demolished under this contract to make way for the new development. The new facility at Wilton Road, will be positioned in the location of an existing raised planter on the site boundary, which will therefore involve partial demolition to dwarf brickwork walls and associated footings. Both sites will require new block paving and making good to existing tarmac road surfacing. The pricing document requests that the tendering contractor provides priced options within their preliminaries costs for programming / phasing the works either concurrently or one site after the other.

3.2.2 Melton Borough Council have made the necessary applications for connections to public utility services including water and electricity at Wilton Road public car park. The appointed contractor to maintain close co-ordination with utility providers to ensure that the connection works are arranged and managed to meet the construction programme. Contractor to be responsible for laying any new pipework, cabling etc. from the new building to the highway boundary. The main contractor is to obtain the necessary licences for undertaking the foul drainage works, which includes full responsibility for undertaking direct drainage connection works to the existing public combined gravity sewer situated within the public highway on Wilton Road.

3.3 Timescale for completion of the construction work

3.3.1 We have set out below an approximate timescale for the completion of the construction work. It should be noted that the contractor has been requested to submit with their tender an outline programme, including their lead-in time from instruction / contract award:

- Contract Award: TBC (Proposed w/c 17th July 2017)
- Lead-in Period: 2 weeks
- Contract Period: 10 weeks

3.4 Use of the structure as a workplace

3.4.1 The structure will be used as a workplace under the Workplace (Health, Safety and Welfare) Regulations 1992.

3.5 Project Directory

3.5.1 Employer (Client):

Name: Melton Borough Council
Address: Parkside
Station Approach
Burton Street
Melton Mowbray
Leicestershire
LE13 1GH
Contact: Chris Damri
Tel: 01664 502502
Email: cdamri@melton.gov.uk

3.5.2 Contract Administrator:

Name: Gleeds Building Surveying Ltd
Address: Wilford House
1 Clifton Lane
Wilford
Nottingham
NG11 7AT
Contact: Mark Strawther
Tel: 0115 977 8000
Mob: 07718 804 323
Email: mark.strawther@gleeds.co.uk



3.5.3 Principal Designer:

Name: Gleeds Building Surveying Ltd
Address: Wilford House
1 Clifton Lane
Wilford
Nottingham
NG11 7AT
Contact: Mark Strawther
Tel: 0115 977 8000
Mob: 07718 804 323
Email: mark.strawther@gleeds.co.uk

3.5.4 Quantity Surveyor:

Name: Gleeds Building Surveying Ltd
Address: Wilford House
1 Clifton Lane
Wilford
Nottingham
NG11 7AT
Contact: Mark Strawther
Tel: 0115 977 8000
Mob: 07718 804 323
Email: mark.strawther@gleeds.co.uk

3.5.6 Further information about the project team is contained in Section A10 – Project Particulars of the preliminaries within section 1 of the specification.

4.0 EXISTING RECORDS

4.1 List of Existing Documents

4.1.1 We have set out below a list of existing documents provided to us by Melton Borough Council which are appended to this document:

- Asbestos Survey Report dated 21st February 2017 prepared by Clearview Environmental Ltd (St Mary's Way site);

4.1.2 In addition to the above, the following documents have been provided:

- Existing utilities drawing for St Mary's Way prepared by RP Drilling Ltd (Drawing No. 0317-HSP-007)
- Existing utilities drawing for Wilton Road prepared by RP Drilling Ltd (Drawing No. 0317-HSP-006)
- Phase II Geo-Environmental Assessment Report dated March 2017 for Wilton Road.
- Phase II Geo-Environmental Assessment Report dated March 2017 for St Mary's Way.
- Topographical Survey for St Mary's Way (Dwg No. NTBS2617_SMW_T01)
- Topographical Survey for Wilton Road (Dwg No. NTBS2617_WR_T01)

5.0 CLIENT'S CONSIDERATIONS AND MANAGEMENT ARRANGEMENTS

5.1 Arrangements for planning and managing construction work

5.1.1 The arrangements for planning and managing the demolition work, and the effort devoted to planning and managing health and safety should be in proportion to the risks and complexity associated with the project i.e. working in occupied premises and working in secure areas, working at night and any noisy demolition works.

5.1.2 The Clients health and safety goals for the project are:

- 1) No reportable accidents or incidents;
- 2) Managing construction safely especially with regard to protecting the building users from exposure to dust / deleterious materials etc.

5.1.3 The Principal Contractor will be responsible for developing the Construction Phase Plan ('CPP'). The CPP will provide details of the arrangements for communication, coordination and the dissemination of health and safety information within the construction site. These arrangements will include appropriate site inductions for new personnel on site and visitors to the site.

5.1.4 Further information on the CPP is contained in Section 9 of this PCI.

5.2 Communication and liaison between client and others

5.2.1 Communications throughout the project team are to be direct. The Gleeds Contract Administrator is to be kept advised of all communications exchanged and information needed by the Project Team and is to be copied in all correspondence. The Principal Contractor is to advise via the construction phase plan, on the following communications for the duration of the works:

- Consultation with the workforce
- Liaison between parties on site
- Exchange of design information between designers, client and contractors.

5.3 Security of the Site

- 5.3.1 The works are within an operational building / site. Overall building security is to be maintained, and liaison with Building Management to ascertain protocols for contractor entry, deliveries and traffic management.
- 5.3.2 The work areas will need to be secured to prevent unauthorised access. The Principal Contractor must put in place procedures for signing in all personnel on the site.
- 5.3.3 The Principal Contractor will be required to communicate robust procedures for the security of the site. Members of the general public, delivery drivers and other personnel will be in close proximity to the working areas.

5.4 Welfare provisions

- 5.4.1 The Principal Contractor is responsible for ensuring that suitable welfare facilities are provided on the site in accordance with the 13(4)(c) of the Construction (Design & Management) Regulations 2015. The welfare facilities should be sufficient enough to comply with the requirements of Schedule 2 and are to be provided throughout the construction phase, and these include provisions for:

- Sanitary conveniences (male and female).
- Washing facilities (hot and cold running water, soap, towels).
- Drinking water (and cups).
- Changing rooms and lockers (where special clothing or changing facilities are needed).
- Facilities for rest (tables, seating, kettle, meal preparation and eating area).

- 5.4.2 The principal contractor's proposals for welfare facilities should be detailed in their CPP and locations set out on a site layout plan.

5.5 Monitoring and review of health and safety performance

- 5.5.1 There should be regular progress meetings throughout the duration of the project, which shall include evidence to demonstrate to the Client that suitable monitoring, and reviewing of health and safety performance is being implemented, in accordance with the Principal Contractor's CPP.

6.0 HEALTH AND SAFETY OF CLIENT END USERS AND EMPLOYEES

6.1 Site Hoarding Requirements

6.1.1 The working areas will need to be fully segregated from the areas in the immediate vicinity to ensure the safety of the general public and other users. This includes hoarding off the pedestrian walkway on Wilton Road and the protection of the public bus stop / shelter. Close co-ordination will be required with Melton Borough Council parking services to agree the resultant loss of car parking spaces, although the health and safety of the public must remain priority.

6.1.2 These arrangements are to be specified in the Construction Phase Plan.

6.2 Site transport arrangements of vehicle movement restrictions

6.2.1 The Principal Contractor will put into place procedures for managing the delivery and removal of materials from the site.

6.2.2 Significant restrictions will be in place on these elements due to security and logistical reasons. A logistics plan will need to be developed and in place in conjunction with the construction phase plan. This plan will be reviewed and updated as necessary by the Principal Contractor.

6.2.3 Roads, carparks, footpaths to be kept clean at all times.

6.2.4 Banksman to be used for all reversing of vehicles.

6.2.5 The Principal Contractor must put systems in place to ensure the safety of all vehicles and pedestrians using the building and surrounding area.

6.3 Client's Permit-to-Work Systems

6.3.1 An agreement on issue of permit to work will be decided at site set up meeting.

6.4 Existing Fire Precautions and Emergency Procedures

- 6.4.1 The Principal Contractor will comply with the requirements of Regulation 32 (Fire detection and fire-fighting) of The Construction (Design and Management) Regulations 2015.
- 6.4.2 The Principal Contractor will comply with the requirements of Regulation 30 (Emergency Procedures) and Regulation 40 (Emergency routes and exits) of The Construction (Design and Management) Regulations 2015.
- 6.4.3 Existing fire and emergency precautions must be taken into account where the Contractor's working areas affects current egress routes. All undertaking on site should not affect current fire and emergency strategies.
- 6.4.4 The Principal Contractor is to plan and maintain fire access routes at all times for emergency vehicles.
- 6.4.5 The Principal Contractor must ensure that any necessary contacts with external services are arranged, particularly with regards to first aid, emergency medical care and rescue work.
- 6.4.6 The nearest accident and emergency hospital to the site is

Leicester Royal Infirmary
Infirmary Square
Leicester
Leicestershire
LE1 5WW

6.5 “No-go” Areas or Other Authorised Requirements

- 6.5.1 The Principal Contractor is to ensure that access within the building is only within the areas designated for the works. The Principal Contractor will be responsible for their personnel and the subsequent sub-contractors appointed.

6.6 Confined Spaces

- 6.6.1 None known.

6.7 Smoking Restrictions

6.7.1 No smoking is permitted on-site.

6.8 Parking Restrictions

6.8.1 Contractor to provide parking (where practicable) within the site compound area. Parking within the public car park for non-construction vehicles will be at the discretion of the client and agreed at the pre-start meeting. Pay & display public parking is available on each site.

6.8.2 Existing local parking restrictions apply if vehicles are parked off away from the sites.

6.9 Client's rules for contractors

6.9.1 In addition to the restrictions specified in the ITT document the following Client rules will apply:

1. Site works will not commence until the emergency, fire and first aid arrangements have been put in place.
2. Site works will not commence until the appropriate welfare arrangements have been put in place.
3. Construction activities will not be carried out without a documented safe system of working.
4. A documented lifting plan will be in place prior to any lifting activities; this will include arrangements for ensuring that lifting activities will not export any hazards to the areas adjacent to the site.
5. Flammable materials stored on site will be secured in appropriate containers at all times. Stored flammable materials will not be permitted to export any risks into the residential areas adjacent to the site.
6. A high standard of housekeeping will be maintained at all times. Waste will not be permitted to accumulate and will be removed from site at regular intervals. Waste will not be permitted to contaminate the public highway or the residential areas adjacent to the site. The burning of waste and rubbish on site is prohibited. If necessary housekeeping arrangements will include measures to discourage vermin on site.
7. The Principal Contractor will put in place suitable arrangements to brief site personnel and visitors to the site about the hazards, safety precautions to be taken and the emergency procedures.

8. A high standard of conduct is required at all times; specifically
 - No horse-play;
 - No cat-calling; and
 - No use of inappropriate or coarse language in presence of members of the public.
9. Construction personnel will be properly dressed at all times.
10. Illegal drugs and alcohol are not permitted on site, anyone caught bringing these to site will be banned from the site.

7.0 ENVIRONMENTAL RESTRICTIONS AND EXISTING ON-SITE RISKS

7.1 Boundaries and access including temporary access

7.1.1 Entrance to the sites is via the main public roadways.

7.2 Restrictions on Deliveries, Waste Collection or Storage

7.2.1 Principal Contractor to refer to the Building Management regarding restrictions on deliveries, waste collection and storage.

7.2.2 Deliveries and waste disposal must not impede the operations of the site and wider area. Please liaise with the local authority. Please also note the central Melton Mowbray locations and the busy main roads to site entrances.

7.3 Current Use of the Site

7.3.1 Live, operational public car parks.

7.4 Previous Use of the Site

7.4.1 Unknown

7.5 Adjacent land uses

7.5.1 A mixture of surrounding land uses including retail, public houses, recreational space and public amenities.

7.6 Existing storage of hazardous materials

7.6.1 To be confirmed at pre-start meeting.

7.7 Existing services

7.7.1 Contractors are to ensure that all relevant isolation points, fuse boards, and water stop cocks are located prior to commencement of works.

7.7.2 An existing utilities drawing is provided for both sites, showing the location of all underground services within the working area.

7.8 Ground conditions and contaminated land

7.8.1 The areas around the sites are predominately hardstandings including block paving and tarmacadam. No contamination issues are known at present. The contractor's attention is drawn to the ground investigation reports for both sites as prepared by HSP Consulting Ltd.

7.9 Information about existing structures

7.9.1 No information has been provided to us in relation to existing structures.

7.10 Previous Structural Modifications

7.10.1 No information has been provided to us in relation to previous structural modifications.

7.11 Fire Damage, Ground Shrinkage or Movement

7.11.1 None known.

7.12 Difficulties Relating to Plant and Equipment

7.12.1 None known.

7.13 Asbestos

7.13.1 Please see section 4 for information available on asbestos. The Principal Contractor should note that an asbestos survey report for St Mary's Way public toilet facility has been included within the appendices. Although an asbestos survey has been carried out, it is possible that unidentified asbestos containing materials may still be present within the building. During the works, site operatives should remain vigilant for the presence of potential ACMs and should suspect materials be encountered they should be referred to a competent asbestos surveyor for appraisal.

7.14 Health risks from client's activities

7.14.1 No health risks from the client's activities have been identified.

7.15 Manual handling

7.15.1 The Contractor should ensure that manual handling training has been undertaken by site operatives. Materials being moved along busy public areas, corridors, car parks, etc., must be escorted by a trained banksman. Where possible materials and equipment must be wheeled to the rather than carried.

7.16 Working at Height

7.16.1 Working at height will be required during this project and should be managed in accordance with the Work at Height Regulations 2005.

7.16.2 All work at height to be risk assessed and control measures put in place to prevent falls from height.

7.16.3 All work at height to be done from safe working platforms with adequate edge protection and fall restrain harnesses as necessary.

8.0 SIGNIFICANT DESIGN AND CONSTRUCTION HAZARDS

8.1 Significant design assumptions

8.1.1 It has been assumed that the majority of the works will take place during the normal working day and that the public car parks will remain in partial operation for the whole period of the works. A suitable and sufficient phasing plan is to be developed and implemented, ensuring that fire escapes are not compromised and are signed accordingly.

8.2 Design co-ordination

8.2.1 Arrangements to facilitate on-going communication and liaison between all design parties will be established by the principal contractor. Progress meetings are to be held at regular intervals throughout the duration of the project. The meetings will cover developing issues and changes required during the construction phase.

8.3 Significant risks identified during design

8.3.1 The following significant risks have been identified:

- Restricted vehicular site access,
- Movement of vehicles and people adjacent to the site,
- Carrying out works in an operational car park,
- Working at height,
- Demolition operations in close proximity to the general public.

8.3.2 The following potentially dangerous work sequences have been identified:

- Unloading materials,
- Lifting operations,
- Removal of waste,
- Dust control,
- Working adjacent to public and private properties,
- Traffic control both on and beyond the site,
- Means of escape during construction.

8.3.4 Commonplace site hazards not identified above are considered to be within the expertise of a competent contractor and must be controlled by normal good site management practice.

8.4 Materials / Use of materials requiring particular precautions

8.4.1 The following list of materials has been identified as requiring particular attention or precautions:

- Storage of gas cylinders – fire and explosion,
- Hot works – burns,
- Plumbing works – solvents for welding, naked flames for welding, flux for preparation of joints, rust inhibitors, cleaning solutions within heating, hot and cold water supplies, comfort cooling system – fumes, fire, skin irritation,
- Working with lead, Handling and cutting of all timber and board materials – splinters, dust, irritation,
- Handling and cutting of materials producing sharp edges – cuts,
- Use of paints – fumes,
- Use of solvents – fumes,
- Use of adhesives, grouts, expanded foam etc. – fire, fumes, skin irritation,
- Use of lagging and mechanical tools – shocks, noise, dust, fumes,
- Use of pneumatic tools,
- Use of percussion tools,
- Use of mortar, concrete, cement, use of powdered materials, generally – dust and skin irritation.

9.0 CONSTRUCTION PHASE PLAN

9.1 The contractor or, where there is more than one contractor, the Principal Contractor, must draw up or make arrangements for a Construction Phase Plan to be drawn up during the pre-construction phase, and before setting up a construction site. The plan must address health and safety issues as work proceeds. The plan will take into account the pre-construction information provided by the client and should include:

- A description of the project such as key dates and details of key members of the project team.
- The health and safety aims for the project.
- The site rules.
- Arrangements to ensure cooperation between project team members and coordination of their work, e.g. regular site meetings.
- Arrangements for involving workers.
- Site induction.
- Welfare facilities.
- Fire and emergency procedures.
- Site security.
- The control of any specific high risk site matters (including those listed in Schedule 3 to CDM 2015) where they are relevant to the work involved. 9.2 The HSE draft guidance states that the plan should not include documents that get in the way of a clear understanding of what is needed to manage the construction phase, such as generic risk assessments, records of how decisions were reached or detailed safety method statements.

10.0 THE HEALTH AND SAFETY FILE

- 10.1 Where a project involves more than one contractor, the Principal Designer must prepare a Health and Safety File and hand it over to the client at the end of the project, or to the Principal Contractor where the Principal Designer's appointment does not extend to the end of the project.
- 10.2 The Health and Safety File is defined as a file appropriate to the characteristics of the project, containing relevant health and safety information to be taken into account during any subsequent project.
- 10.3 The file must contain information about the current project that is likely to be needed to ensure health and safety during any subsequent work such as maintenance, cleaning, refurbishment or demolition. When preparing the health and safety file, information on the following should be considered for inclusion:
- A brief description of the work carried out.
 - Any hazards that have not been eliminated through the design and construction processes, and how they have been addressed (e.g. surveys or other information concerning asbestos or contaminated land).
 - Key structural principles (e.g. bracing, sources of substantial stored energy including pre or post-tensioned members) and safe working loads for floors and roofs.
 - Hazardous materials used (e.g. lead paints and special coatings).
 - Health and safety information about equipment provided for cleaning or maintaining the structure.
 - The nature, location and markings of significant services, including underground cables, gas supply equipment, fire-fighting services, etc.
 - Information and as-built drawings of the building, its plant and equipment.
- 10.4 The HSE's CDM 2015 guidance says that, as the project progresses, the client must ensure that the Principal Designer regularly updates, reviews and revises the health and safety file to take account of the work and any changes that have occurred.
- 10.5 The client must then retain the file and ensure that it is available to anyone who may need it for as long as it is relevant - normally the lifetime of the building - to enable them to comply with

health and safety requirements during any subsequent project. It can be kept electronically, on paper, on film, or in any other durable form.

- 10.6 If a client disposes of their interest in the building, they must provide the file to the individual or organisation who takes on the client duties and ensure that the new client is aware of the nature and purpose of the file. If they sell part of a building, any relevant information in the file must be passed or copied to the new owner. If the client leases out all or part of the building, arrangements should be made for the file to be made available to leaseholders. If the leaseholder acts as a client for a future construction project, the leaseholder and the original client must arrange for the file to be made available to the new Principal Designer.



ASBESTOS SURVEY REPORT

Demolition Survey (with MA only)

Report Number	Issue Number	Issue Date
J019761	1	21 Feb 2017
Site Address		UPRN
St Mary's Way Public Toilet (in St Mary's Way Car Park), Melton Mowbray, Leicestershire, LE13		Unknown
Scope of Survey		
Demolition survey to all internal and external locations		
Client Specific Requirements		
None		



Surveyed by:	Mick Stephenson	Reviewed by:	Helen Johnson
<i>Signed as authorised</i>		<i>Signed as reviewed</i>	

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1.0 Executive Summary

Type of survey carried out: Demolition Survey (with MA only) as defined in “HSG 264 Asbestos: The survey guide”.

- Purpose of the survey:*
- To provide accurate information on the location, amount and condition of asbestos-containing materials (ACMs).
 - To assess the level of damage or deterioration in the ACMs and whether remedial action is required.
 - To use the survey information to prepare an asbestos register, and an asbestos plan of the building(s).
 - To help identify all the ACMs to be removed before refurbishment work or demolition.

Extent of the survey: All accessible locations as requested by the client at;
St Mary's Way Public Toilet (in St Mary's Way Car Park)
Melton Mowbray
Leicestershire
LE13

1.1 Locations of Asbestos Containing Materials

A summary of the locations of all asbestos containing materials (ACM's) identified or presumed during the survey along with the action priority and recommended action can be found in section “4.0 *Asbestos Register*” and are highlighted on the site plans in Appendix B.

1.2 Locations of Inaccessible Areas

A summary of all areas and locations that were inaccessible during the survey can be found in section “4.1 *Inaccessible Areas*” and are highlighted on the site plans in Appendix B.

These areas / locations should be presumed to contain asbestos on a worst case risk basis until proven otherwise as required by HSG264.

1.3 Locations of Materials Identified as Non Asbestos

Section “4.2 *Materials identified as not containing asbestos*” details all materials that have been sampled or strongly presumed as other sampled materials and on analysis did not contain asbestos.

2.0 Introduction

A proposal was put forward to the client to carry out a survey, that was accepted, and a survey of all accessible areas was undertaken.

Further to the completion of the survey all the information gathered has been incorporated into this report to detail all asbestos containing materials, inaccessible areas and materials that following analysis did not contain asbestos.

3.0 General site and survey information

<i>Name of Surveyor / assistant surveyors:</i>	Mick Stephenson
<i>Report Author:</i>	Helen Johnson
<i>Survey commissioned by:</i>	John Brammall, Melton Borough Council, Parkside, Station Approach, Burton Street, Melton Mowbray
<i>Report issue date:</i>	21 Feb 2017
<i>Issue Number:</i>	1
<i>Reason for re-issue:</i>	N/A
<i>Date / s the survey was carried out:</i>	10 Feb 2017
<i>Scope of works:</i>	Demolition survey to all internal and external locations
<i>Building / s occupied or vacant:</i>	Occupied
<i>Details of plans / drawings provided: (if none, to be drawn by surveyor)</i>	None, surveyor to draw
<i>Reason for survey:</i>	Site is to be demolished
<i>Survey and sampling method:</i>	Clearview standard procedures
<i>Variations or deviations from Clearview Environmental Ltd procedure:</i>	None
<i>Details of previous surveys:</i>	None
<i>Agreed exclusions:</i>	None
<i>Additional information:</i>	Attendant onsite will have keys to give access to any cupboards
<i>Name of UKAS laboratory carrying out bulk sample analysis:</i>	Clearview Env Ltd-Leicester
<i>Number of samples collected (certificate in Appendix A):</i>	6

3.1 Description of buildings surveyed

	<p>Building designation <i>St Mary's Way</i></p> <p>Age of Building <i>Unknown</i></p> <p>Internal notes <i>N/A</i></p>	<p>Building description <i>Public Toilets</i></p> <p>Construction type <i>Brick built with a tiled roof</i></p> <p>External notes <i>N/A</i></p>
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3.2 Details of refurbishment / demolition requirements

<p><i>Details of the proposed refurbishment / demolition works: (locations and details of clients scope of works)</i></p>	<p>Site is to be demolished</p>
<p><i>Details of where intrusive inspection is required / allowed by the client. List rooms / locations and the items within each room that can be opened up.</i></p>	<p>Full intrusion throughout</p>
<p><i>Details of requests from the client where intrusion should be restricted or not allowed (refurbishment areas). List rooms / locations and the items within each room that are affected.</i></p>	<p>N/A</p>
<p><i>Details of making good requirements:</i></p>	<p>Temporarily make good</p>

4.0 Asbestos register (refer to section 5.0 for more detailed information)

Room Code	Designation/Block	Floor	Location	Description	Position	Quantity	Asbestos Type	Ref no.	Type of I.D.	Action Priority	Recommended Action
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No asbestos materials found to be present.

4.1 Inaccessible areas

Note: Where limited access to locations are identified, these are recorded in Section 3.1 – Internal notes and Appendix C – room notes to the relevant location

Room Code	Designation/Block	Floor	Location	Description	Ref no.	No access reason / description	Photo
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No inaccessible areas recorded.

4.2 Materials identified as not containing asbestos

Room Code	Designation/Block	Floor	Location	Position	Description	Ref no.	Photo
E.01	St Mary's Way	External	External areas	Low level externals	Damp proof membrane	001 - AX000599	
E.01	St Mary's Way	External	External areas	To windows and doors	Sealant - frame/wall	002 - AX000600	
G.01	St Mary's Way	Gnd Floor	Attendants area	In cavity to external wall	Vapour barrier	004 - AX000602	
G.01	St Mary's Way	Gnd Floor	Attendants area	Underside of sink unit	Bitumen pad	005 - AX000603	
G.02	St Mary's Way	Gnd Floor	Open void (above all rooms)	Ceiling	Felt lining	003 - AX000601	
G.05	St Mary's Way	Gnd Floor	Ladies w/c	In cavity to external wall	Vapour barrier	008 - As AX000602	
G.06	St Mary's Way	Gnd Floor	Services cupboard	In cavity to external wall	Vapour barrier	009 - As AX000602	
G.07	St Mary's Way	Gnd Floor	Gents w/c	In cavity to external wall	Vapour barrier	010 - As AX000602	

4.2 Materials identified as not containing asbestos

Room Code	Designation/Block	Floor	Location	Position	Description	Ref no.	Photo
G.08	St Mary's Way	Gnd Floor	Baby changing room	In cavity to external wall	Vapour barrier	011 - As AX000602	
G.09	St Mary's Way	Gnd Floor	Accessible w/c	In cavity to external wall	Vapour barrier	012 - As AX000602	
G.10	St Mary's Way	Gnd Floor	Lobby area	To entrance door windows	Putty	013 - AX000604	
G.11	St Mary's Way	Gnd Floor	Night toilet	In cavity to external wall	Vapour barrier	014 - As AX000602	

5.0 Conclusions and actions

No asbestos materials found to be present.

6.0 Survey purpose

To help manage asbestos in the duty holder's (client's) premises, by;

- Providing accurate information on the location, amount and condition of asbestos containing materials (ACM's).
- Assessing the level of damage or deterioration in the ACM's and whether remedial action is required.
- Using the survey information to provide a record of the location of any asbestos materials either identified or presumed and listing them in a table and on building plans.
- Helping to identify all the ACM's to be removed before refurbishment work or demolition.

7.0 Aims and objectives

To, as far as reasonably practicable locate, identify and assess all reasonably accessible ACM's present in the scope of the survey and to present the information collected in a way which allows the duty holder to manage the risks arising from those materials and comply with the Control of Asbestos Regulations (CAR) 2012.

8.0 UKAS accreditation

Clearview Environmental Ltd (Inspection body 6536) are accredited by UKAS as a Type C inspection body carrying out management, refurbishment and demolition surveys in accordance with HSG 264 Asbestos: The survey guide, and the Control of Asbestos Regulations 2012.

9.0 Sampling strategy

Bulk sampling procedures used within this survey are as described within the documented Standard Procedures of Clearview Environmental Ltd and as described in HSG264.

Sampling will normally be carried out at the time of the survey, however, for very large premises or where access has not been possible, sampling may be carried out as a separate exercise, e.g. when the area is available. Each area and room in the premises will have had a thorough visual examination to identify the materials and locations to be selected for sampling.

For homogeneous material, often a single sample is all that is required to confirm the suspicion that it is asbestos and to make a presumption that it applies to other material of the same type. However, for non-homogeneous materials and for some presumed non-asbestos materials, additional sampling may be needed, to reduce the possibility of false negatives which may lead to incorrect conclusions.

All samples collected have been analysed by a UKAS accredited Laboratory to detect the presence of asbestos fibres in accordance with the method set out in HSG 248.

The number of samples collected and the laboratory accreditation number are listed in Section 3.0. The bulk sample certificate can be found in Appendix A.

During the survey there may have been occasions where samples were not taken, for example;

- Where sampling will damage the critical integrity of the material (e.g. a roof, gutter, pipe).
- Where there is an electrical hazard (e.g. flash guards within live electrical equipment).
- Unsafe access.
- Identical materials had already been sampled.

In the case of any of the above circumstances a presumption shall be made to the presence of asbestos containing materials. Where generically similar materials had already been sampled, a reference will be made to the sample number and the type of asbestos present.

10.0 Management surveys

A management survey is the standard survey. Its purpose is to locate, as far as reasonably practicable, the presence and extent of any suspect ACMs in the building which could be damaged or disturbed during normal occupancy, including foreseeable maintenance and installation, and to assess their condition in all accessible areas including;

- Under floor coverings.
- Above false ceilings (ceiling voids).
- Lofts / roof voids.
- Inside risers.
- Service ducts and lift shafts.
- Basements and cellars.
- Underground rooms and undercrofts.

Management surveys will often involve minor intrusive work and some disturbance. The extent of intrusion will vary between premises and depend on what is reasonably practicable for individual properties, i.e. it will depend on factors such as the type of building, the nature of construction, accessibility etc. A management survey should include an assessment of the condition of the various ACMs and their ability to release fibres into the air if they are disturbed in some way. This 'material assessment' will give a good initial guide to the priority for managing ACMs as it will identify the materials which will most readily release airborne fibres if they are disturbed.

The survey will usually involve sampling and analysis to confirm the presence or absence of ACMs. However a management survey can also involve presuming the presence or absence of asbestos. A management survey can be completed using a combination of sampling ACMs and presuming ACMs or, indeed, just presuming. Any materials presumed to contain asbestos must also have their condition assessed (i.e. material assessment).

Boxing's

During a management survey, boxing's that are constructed in such a way that they can be easily accessed (have removable panels, access doors or can be easily unscrewed), are usually inspected. However, boxing's that would require a more destructive inspection (nailed and / or glued on panels), do not normally fall within the remit of this type of survey and are not be included within the report unless specifically requested by the client.

Floor coverings (inc. Loft insulation)

Wherever possible during a management survey the surveyor will lift floor coverings to inspect for the presence of asbestos containing materials, however it is usually not possible to lift all of the floor covering. Therefore comment can only be made on the area inspected. If future refurbishment/repair works will require the removal of floor coverings further inspection will be required prior to the works commencing. Floor coverings that cannot be lifted without causing damage to them shall not be lifted and subsequently the surface beneath the floor covering shall be deemed to be inaccessible.

Fire doors

Fire doors may contain concealed asbestos containing materials. In the case of a management survey it is not possible to ascertain its presence without causing damage to the door. It should be assumed that all fire doors on the premises contain asbestos containing materials until a destructive inspection is undertaken.

Gaskets

Gaskets used to seal pipe and ducting joints may contain asbestos usually Chrysotile. In the case of a management survey it is generally not possible to inspect pipe work or ducting for their presence without dismantling or damaging the plant. It should be assumed that all pipe work and ducting on the premises contain asbestos gaskets. The gaskets are unlikely to give rise to significant airborne fibre release unless they are disturbed during maintenance works.

Skylights

Skylights may contain concealed asbestos rope seals. In the case of a management survey it is generally not possible to inspect skylights for the presence of asbestos rope seals without dismantling or damaging the skylight. It should be assumed that all skylights on the premises contain asbestos containing materials until a destructive inspection is undertaken.

Storage / space heaters / boilers / heating appliances

Heaters, boilers etc. may contain concealed asbestos containing materials in the form of insulation materials or gaskets and washers. In the case of a management survey it is not always possible to ascertain its presence within the heater without causing damage to the unit. It should be assumed that all heaters and boilers on the premises may contain asbestos materials until a destructive (refurbishment) inspection is undertaken.

Electrical switchgear / consumer units

Electrical switch gear and consumer units may contain concealed asbestos containing materials in the form of flash guards and flash shields. It is not always possible to ascertain the presence of asbestos containing materials as usually the electrical switchgear is live and therefore opening the switchgear would pose a possible risk of electric shock. It should be presumed that all electrical switchgear on the premises may contain asbestos materials until such time the switchgear can be isolated and safely inspected.

11.0 Refurbishment and demolition surveys

A refurbishment and demolition survey is needed before any refurbishment or demolition work is carried out. This type of survey is used to locate and describe, as far as reasonably practicable, all ACMs in the area where the refurbishment work will take place or in the whole building if demolition is planned.

The survey will be fully intrusive and involve destructive inspection, as necessary, to gain access to all areas, including those that may be difficult to reach. A refurbishment and demolition survey may also be required in other circumstances, e.g. when more intrusive maintenance and repair work will be carried out or for plant removal or dismantling.

There is a specific requirement in CAR 2012 (regulation 7) for all ACMs to be removed as far as reasonably practicable before major refurbishment or final demolition. Removing ACMs is also appropriate in other smaller refurbishment situations which involve structural or layout changes to buildings (e.g. removal of partitions, walls, units etc.). Under CDM, the survey information should be used to help in the tendering process for removal of ACMs from the building before work starts.

The survey report should be supplied by the client to designers and contractors who may be bidding for the work, so that the asbestos risks can be addressed. In this type of survey, where the asbestos is identified so that it can be removed (rather than to 'manage' it), the survey does not normally assess the condition of the asbestos, other than to indicate areas of damage or where additional asbestos debris may be present. However, where the asbestos removal may not take place for some time, the ACMs' condition will need to be assessed and the materials managed.

12.0 Exclusions and Inaccessible areas

Although every effort is made to access all areas, there may be occasions where access was not possible. Any areas not accessed or inspected are presumed to contain asbestos unless there is strong evidence to suggest otherwise. Details of inaccessible areas are listed in the table in Section "4.1 *Inaccessible areas*".

Any exclusions or inaccessible areas that have been agreed with the client prior to the survey are listed in Section "3.0 *General site and survey information*".

13.0 Terminology and abbreviations

The following abbreviations may have been used within the report;

3MF, MMMF:	Machine made mineral fibre, fibre glass, Rockwool or other similar materials
NAMP:	No asbestos materials present
NAD:	No asbestos detected
ESG:	Electrical switchgear
CASC:	Ceiling above suspended ceiling
AIB:	Asbestos insulating board
ACM's	Asbestos containing materials
CAR 2012	Control of asbestos regulations 2012

The following terminology is used within the report;

Room code:	Each area inspected is given a unique reference number.
Designation / block:	Name or reference given to a specific building or block.
Floor:	The floor level, e.g. ground, first external etc.
Location:	The room, space, area or compartment.
Description:	A description on the type of material identified, e.g. floor tile, textured coating.
Position:	Where the ACM is positioned within a location, e.g., ceiling, wall, floor.
Quantity:	The estimated amount and unit of measurement for the ACM.
Asbestos type:	Crocidolite = Blue Asbestos Amosite = Brown Asbestos Chrysotile = White Asbestos
Ref No:	The reference number of the type of identification. Either the sample number, strongly presumed as sample number or visual reference number for presumed materials.
Type of I.D.:	The method in which the material has been identified as either containing or not containing asbestos.

Identified: - Material has been sampled and laboratory analysis has determined whether or not the material contains asbestos.

Strongly presumed: - Material is identical in appearance to other already sampled materials and therefore is strongly presumed to contain asbestos.

Presumed: - Where it has not been possible to collect a sample and due to the physical properties of the material is presumed to contain asbestos.

Discussions and recommended actions: A brief description of the recommended course of action to manage the ACMs.

Report No: The unique report number assigned to the survey and associated report.

14.0 Material assessment

In the material assessment process, the main factors influencing fibre release are given a score which can then be added together to obtain a material assessment rating. The four main parameters which determine the amount of fibre released from an ACM when subject to disturbance are:

- Product type
- Extent of damage or deterioration
- Surface treatment
- Asbestos type

Each parameter is scored between 1 and 3. A score of 1 is equivalent to a low potential for fibre release, 2 = medium and 3 = high. Two parameters can also be given a nil score (equivalent to a very low potential for fibre release). The value assigned to each of the four parameters is added together to give a total score of between 2 and 12. Presumed or strongly presumed ACMs are scored as crocidolite (i.e. score = 3) unless there is strong evidence to show otherwise. Examples of scoring for each parameter are given in “15.0 *Material assessment algorithm*”.

Materials with assessment scores of 10 or more are rated as having a high potential to release fibres, if disturbed. Scores of between 7 and 9 are regarded as having a medium potential, and between 5 and 6 a low potential. Scores of 4 or less have a very low potential to release fibres. Non-asbestos materials are not scored.

In certain instances materials that may not have been sampled can be either presumed, or strongly presumed to contain asbestos.

If a sample is not taken, there must also be a presumption made whether the material is asbestos or non-asbestos. Surveyors will visually assess the edges and damaged areas of suspect materials and record the following:

- Whether visible fibres are present on close inspection (see *Asbestos: The analysts' guide for sampling, analysis and clearance procedures*).
- The colour of the fibres, if visible.
- Whether fibres are visually consistent with asbestos (e.g. form bundles with splayed ends).

Some materials, like textured plasters, paints and vinyl floor tiles, may contain very fine dispersed chrysotile asbestos which may not be seen by eye or with a magnifying glass, and these materials (if old) will have to be presumed to contain asbestos unless they are sampled and carefully analysed by a competent laboratory. As imported materials may have contained chrysotile asbestos until 1999 and laboratories often miss the fine asbestos, some additional checks may be necessary with these types of materials. Other useful characteristics (e.g. surface texture, sound when knocked, warmth to touch, surface hardness/deformation with a probe) may also be used by experienced surveyors to help compare the material with other materials they have previously encountered and had samples identified. Unless the surveyor is convinced that there is adequate evidence to conclude that the material is asbestos-free (e.g. plaster, plasterboard, wood etc.), a presumption or strong presumption should be made that it is an ACM.

Presumed or strongly presumed asbestos containing materials are scored as crocidolite (3), unless analysis of similar samples from the building shows a different asbestos type, or if there is reasoned argument that another type of asbestos was almost always used.

15.0 Material assessment algorithm

Sample variable	Score	Examples of scores
Product type (or debris from product):	1	Asbestos-reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc.).
	2	AIB, millboards, other low-density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt.
	3	Thermal insulation (e.g. pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and packing.
Extent of damage/deterioration:	0	Good condition: no visible damage.
	1	Low damage: a few scratches or surface marks, broken edges on boards, tiles etc.
	2	Medium damage: significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres.
	3	High damage or delamination of materials, sprays and thermal insulation. Visible asbestos debris.
Surface treatment:	0	Composite materials containing asbestos: reinforced plastics, resins, vinyl tiles.
	1	Enclosed sprays and lagging, AIB (with exposed face painted or encapsulated) asbestos cement sheets etc.
	2	Unsealed AIB, or encapsulated lagging and sprays.
	3	Unsealed lagging and sprays.
Asbestos type:	1	Chrysotile.
	2	Amphibole asbestos excluding crocidolite.
	3	Crocidolite.
Score	Potential to release asbestos fibres	
10 or more	High	
7-9	Medium	
5-6	Low	
4 or less	Very low	
Non-asbestos materials have no potential to release asbestos fibres		

16.0 Accessibility and action priority assessment

Guidance is given on the best action to be taken to prevent potential exposure to asbestos containing materials. The Surveyor uses his or her best judgement based on the information available at the time of the survey as follows:

a. Material assessment

As Section 15.0

b. Accessibility

- **Routinely disturbed (3)** – ACMs that are located in normally occupied areas and are disturbed as part of the normal use of the area, e.g. door with an AIB panel, floor tiles etc. ACMs found during a refurbishment or demolition survey will usually be scored as a rating of 3 unless specifically requested otherwise.
- **Easily disturbed (2)** – ACMs that are easy to get at but are not routinely disturbed. E.g., wall panels within a classroom, floor debris within a plantroom, textured coating to a low level ceiling.
- **Occasionally likely to be disturbed (1)** – ACMs that won't usually be disturbed unless for planned maintenance or similar. E.g., flashguards within electrical switchgear, AIB panels in a riser or lift shaft, water tank within a loft, ACMs at high level (above 3 metres).
- **Usually inaccessible or unlikely to be disturbed (0)** – ACMs that are highly unlikely to be disturbed as they are in locations where access is difficult and not usually required, e.g. sealed service ducts.

Material Assessment Score (a) multiplied by Accessibility (b) = Action Priority (as below)

Immediate priority:

(Score of above 20)

Significant asbestos risk, immediate action required to prevent exposure to occupants.

Middle term priority:

(Score of 15-20)

No immediate risk of exposure to occupants but requires remedial works.

Longer term priority:

(Score of 14 or lower)

Low asbestos risk, little risk of exposure to occupants unless material is disturbed.

Reassessment of asbestos containing materials should be carried out at regular intervals as the condition of the materials or use of an area may change.

Appendix A Bulk analysis results



Certificate for Identification of Asbestos Fibres

Report No: J019761 Date Issued: 21 Feb 2017

Client:	Melton Borough Council	Attention of:	John Brammall
Client Address:	Parkside, Station Approach, Burton Street, Melton Mowbray, LE13 1GH	Client Ref:	75041
Site Address:	St Mary's Way Public Toilet (in St Mary's Way Car Park), Melton Mowbray, Leicestershire, LE13	Date Recieved:	13/02/2017

Number of Samples:	6	Sampled by:	Mick Stephenson	Date Analysed:	15/02/2017
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Clearview Sample No.	Client Sample No.	Sample Location	Sample Description	Fibre Type Detected	Comments
001 - AX000599	1	External areas, Low level externals	Damp proof membrane	No Asbestos Detected	
002 - AX000600	2	External areas, To windows and doors	Sealant - frame/wall	No Asbestos Detected	
003 - AX000601	3	Open void (above all rooms), Ceiling	Felt lining	No Asbestos Detected	
004 - AX000602	4	Attendants area, In cavity to external wall	Vapour barrier	No Asbestos Detected	
005 - AX000603	5	Attendants area, Underside of sink unit	Bitumen pad	No Asbestos Detected	
013 - AX000604	13	Lobby area, To entrance door windows	Putty	No Asbestos Detected	

Analyst	Bill Norton	Signature	
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Samples of material(s) [detailed above] have been examined to determine the presence of asbestos fibres, using Polarised Light Microscopy together with dispersion staining based on the HSEs guidance document HSG248 and Clearview Environmental Ltd in house documented method SPM002. All samples taken by Clearview Environmental Ltd have been sampled in accordance with CAR 2012, HSG264 & HSG248.

For third party sampling, the site address and sample location will be reported as provided by the client. Clearview Environmental Ltd is not responsible for the accuracy or competence of the sampling by third parties. Under these circumstances Clearview Environmental Ltd cannot be held responsible for the interpretation of the results shown.

All sample found to be deviating from policies defined in document TPS63 (UKAS Policy on Deviating Samples) Shall be listed in the comments box. As a result, the test result(s) may be invalid. Opinions and interpretations are outside the scope of the UKAS accreditation.

This Report shall not be reproduced except in full, without written approval of the laboratory. (V2), or subsequent V numbers, after the report number signifies that the original certificate (or previous amended certificate) has been replaced.

Key - NADIS = No Asbestos Detected in Sample. N.B - All Samples will be retained for a minimum of 6 months

Appendix B Site plans

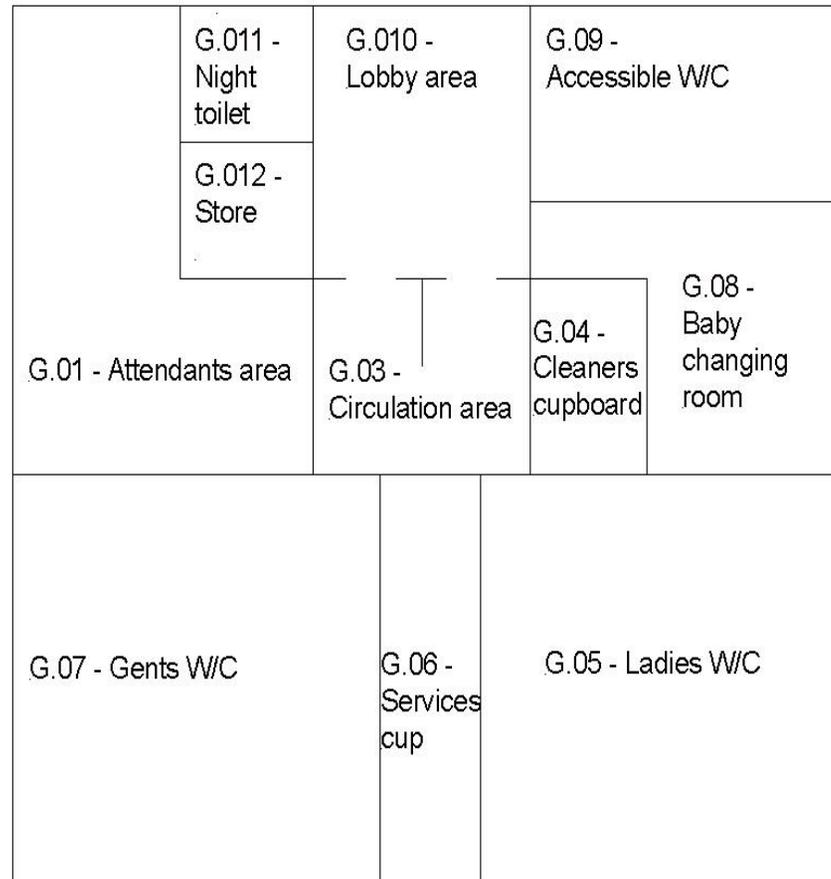
Floorplan No: 1	Floor: External	Building: St Mary's Way	Description: N/A
		Asbestos containing materials	  Inaccessible location/s

No asbestos materials identified during survey

E.01 - External areas

Floorplan No: 2	Floor: Ground Floor	Building: St Mary's Way	Description: N/A
		Asbestos containing materials	
Inaccessible location/s			

G.02 - Open void (above all rooms)



No asbestos materials identified during survey

Appendix C Survey findings

Room Code	Designation/Block	Floor	Location	Room Notes
E.01	St Mary's Way	External	External areas	Roof - tiled, walls - brick, rainwater goods - metal, windows and doors - wood, cowling - metal,
G.01	St Mary's Way	Gnd Floor	Attendants area	Suspended ceiling - non asbestos, walls - plaster, brick / block, floor - ceramic tiled, concrete, pipework - exposed and unlagged, windows - metal, seal to glass - rubber, insulation around window - foam, sills - ceramic tiled, cisterns - plastic, metal, switchgear - modern
G.02	St Mary's Way	Gnd Floor	Open void (above all rooms)	Walls - brick / block, ducting - metal, exposed & unlagged, ducting hose - plastic, water tanks - fibreglass, plinth to water tank - wood, pipework - exposed and unlagged, foam insulation appears clean beneath, flue - metal, insulation above tiles - mmmf, tiles - namp
G.03	St Mary's Way	Gnd Floor	Circulation area	Suspended ceiling - non asbestos, walls - ceramic tiled, plaster, brick / block, floor - ceramic tiled, concrete, pipework - exposed and unlagged, windows - wood
G.04	St Mary's Way	Gnd Floor	Cleaners cupboard	Suspended ceiling - non asbestos, walls - brick / block, floor - ceramic tiled, concrete
G.05	St Mary's Way	Gnd Floor	Ladies w/c	Suspended ceiling - non asbestos, walls - ceramic tiled, plaster, brick / block, floor - ceramic tiled, concrete, pipework - exposed and unlagged, windows - metal, seal to glass - rubber, insulation around window - foam, sills - ceramic tiled, cubicles - wood, boxing to sink units - wood
G.06	St Mary's Way	Gnd Floor	Services cupboard	Suspended ceiling - non asbestos, walls - brick/ block, floor - concrete, pipework - exposed and unlagged, foam insulation, appears clean beneath, cisterns - plastic, ceramic, boiler - namp, soil & vent pipe - plastic, hot water cylinder - foam insulated appears clean beneath, step - concrete
G.07	St Mary's Way	Gnd Floor	Gents w/c	Suspended ceiling - non asbestos, walls - ceramic tiled, plaster, brick / block, floor - ceramic tiled, concrete, pipework - exposed and unlagged, windows - metal, seal to glass - rubber, insulation around window - foam, sills - ceramic tiled, cubicles - wood, boxing to sink units - wood

Room Code	Designation/Block	Floor	Location	Room Notes
G.08	St Mary's Way	Gnd Floor	Baby changing room	Suspended ceiling - non asbestos, walls - ceramic tiled, plaster, brick / block, floor - ceramic tiled, concrete, pipework - exposed and unlagged, windows - metal, seal to glass - rubber, insulation around window - foam, sills - ceramic tiled, cubicles - wood, boxing to to w/c - wood, cistern in boxing - plastic
G.09	St Mary's Way	Gnd Floor	Accessible w/c	Ceiling - plaster, walls - ceramic tiled, plaster, brick / block, floor - ceramic tiled, concrete, pipework - exposed and unlagged, windows - metal, seal to glass - rubber, insulation around window - foam, sills - ceramic tiled, cistern - ceramic,
G.10	St Mary's Way	Gnd Floor	Lobby area	Ceiling - plaster, walls - brick/ block, floor - quarry tile, doors - wood
G.11	St Mary's Way	Gnd Floor	Night toilet	Ceiling - wood, walls - plaster, brick / block, floor - ceramic tiled, concrete
G.12	St Mary's Way	Gnd Floor	Store	Ceiling - wood, walls - plaster, brick / block, floor - ceramic tiled, concrete



Phase II Geo-Environmental Assessment Report

C2521 - Wilton Road, Melton Mowbray

March 2017

[HSP Consulting Engineers Ltd](#)

Lawrence House, 4 Meadowbank Way, Nottingham, NG16 3SB

Wilton Road Melton Mowbray Leicestershire LE13 0UJ

Phase II Geo-Environmental Assessment Report

This report was produced by HSP Consulting Engineers Ltd for Gleeds Building Surveying Ltd as the Phase II Geo-environmental Assessment Report for Wilton Road, Melton Mowbray to identify possible areas of contamination and provide an assessment of potential ground related development constraints.

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Issue & Revision History

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Executive Summary

HSP Consulting has been commissioned by Gleeds Building Surveying Ltd to undertake an intrusive ground investigation at the site to investigate the existing ground conditions and provide information on likely constraints to the development, parameters for design and recommendations for any mitigation measures should they be required. The current development proposals indicate an accessible public convenience block.

The site is approximately rectangular in shape and is approximately 0.02Ha in area. At the time of the site investigation the majority of the site was occupied by a raised decorative planter with a bus shelter in the south east, block pavement in the north and taxi rank in the west. The approximate National Grid Reference for the centre of the site is 474988,319236.

The physical methods of investigation employed were 3No. window sample boreholes to a maximum depth of 5.00m begl to provide information for foundation design and obtain representative disturbed soil samples to forward for geotechnical and geo-environmental analysis. The geology of the site comprises Made Ground to a maximum depth of 1.10m begl. Underlying the Made Ground are glaciolacustrine superficial deposits consisting of interbedded very soft to stiff orangish brown and yellowish brown sandy gravelly CLAY and reddish brown fine to coarse SAND to a maximum proven depth of 5.00m begl.

Orangish brown clayey SAND was encountered in WS1 and WS3 to a maximum depth of 3.40m begl and orangish brown sandy GRAVEL of mixed lithology was identified in WS3 between 1.10m and 1.60m begl.

The natural fine superficial deposits are considered to be suitable as a formation layer from a minimum depth of 1.10m. At the above depth HSP would recommend that an allowable bearing pressure of 65kN/m² should be readily achievable when utilising a 0.60m wide strip foundation in the fine and coarse soils with a reinforced strip foundation or a raft foundation to overcome differential settlement. Alternatively a deepened strip footing founding in the fine deposits at a minimum depth of 1.60m could be used.

Suspended floor slabs will be required due to the depth of Made Ground. Alternatively the Made Ground could be partially removed to reduce cover to 600mm depth and replaced with suitably compacted aggregate to allow the use of a ground bearing floor slab.

It is considered appropriate to adopt a basic Design Sulphate Class of DS-2 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-2.

The chemical analysis and risk assessment undertaken to date indicate that the soils on site should be considered suitable for the proposed end use and mitigation is not required during redevelopment.

In addition to the contamination discussed above, asbestos screening was undertaken on three samples of Made Ground, with no asbestos identified in any of the samples.

The executive summary contains an overview of key findings and conclusions. However no reliance should be placed on the executive summary until the whole of the report has been read. Other sections of the report may contain information which puts into context the findings noted within the executive summary.



1. Introduction

1.1 Background

Melton Borough Council proposes to construct an accessible public convenience block at land off Wilton Road, Melton Mowbray. The development proposals are included as Appendix I. Our Client requires an overview of the contamination and ground conditions at the site in order to inform the design of the building.

1.2 Client Brief & Scope

HSP Consulting has been commissioned by Gleeds Building Surveying Ltd on behalf of Melton Borough Council to undertake an intrusive ground investigation at the site to investigate the existing ground conditions and provide information on likely constraints to the development, parameters for design and recommendations for any mitigation measures should they be required.

The report presents the following information:

- details of the ground investigation undertaken and the ground conditions encountered,
- details and results of the geotechnical testing and contamination analysis,
- recommendations for mitigating constraints to the proposed development where appropriate and providing parameters for design in a geotechnical context.

Where applicable, the fieldwork was undertaken in accordance with BS5930:2015 Code of Practice for Site Investigations and BS10175:2011+A1:2013 Investigation of Potentially Contaminated Sites.

1.2 Report Objectives

The objectives of this report are to:

- establish the geological and hydrogeological conditions using existing available/published information;
- summarise available information and identify site specific geotechnical and environmental hazards which may place a constraint upon the proposed site use;
- produce an updated Conceptual Site Model identifying potential pollution linkages between sources of contamination, pathways and receptors;

1.3 Limitations

The recommendations made in this report are based on the findings of the intrusive ground investigation undertaken by HSP Consulting Ltd on the 1st March 2017.

1.4 Previous Reports

No previous reports for the site have been provided to HSP Consulting Engineers Ltd by the Client.

2. Review of Existing Information & Geoenvironmental Setting

2.1 The Site

2.1.1 Location

The site is located off Wilton Road, Melton Mowbray approximately 0.15km west of Melton Mowbray Town Centre. The approximate National Grid Reference for the centre of the site is (NGR) 474988,319236. A Site Location Plan is included in Appendix I.

2.1.2 Description

The site is approximately rectangular in shape and is approximately 0.02Ha in area.

At the time of the site investigation the majority of the site was occupied by a raised decorative planter with a bus shelter in the south east, block pavement in the north and taxi rank in the west.

The site is bound by the footway of Wilton Road to the east, a taxi rank to the west and entrance to a car park to the north. The southern boundary is not clearly defined.

2.1.3 Surrounding Land Use

The main features of interest identified are:

North: Library and College with residential properties beyond.
East: Wilton Road with Melton Mowbray town centre beyond.
South: Care home with park and sports fields beyond.
West: Car park.

2.1.4 Site Access

The site is accessed off Wilton Road in the north east.

2.1.5 Proposed End Use

It is proposed to construct a new accessible public convenience block at the site.

2.2 Geology

2.2.1 Made Ground

No Made Ground deposits are recorded across the site on relevant BGS mapping.

2.2.2 Superficial Deposits

Superficial deposits comprising glaciolacustrine clay, silt and sand are expected across the site.

2.2.3 Bedrock Geology

BGS bedrock mapping indicates the site is underlain by the Blue Lias Formation described by the BGS as *'Thinly interbedded limestone (laminated, nodular, or massive and persistent) and calcareous mudstone or siltstone (locally laminated). Individual limestones are typically*

0.10-0.30m thick. In some areas, intervening mudstone units with relatively few limestone beds.

2.2.4 Structural Geology

No faults were identified within 500m of the site on BGS mapping.

2.3 Pertinent Site Sensitivity Information

2.3.1 Mining

The site does not lie within a Coal Authority Referral Area or Standing Advice Area.

2.3.2 Hydrogeology

Aquifer Units

The Blue Lias Formation deposits have been classified as a Secondary Undifferentiated Aquifer, a designation given *'where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.'*

The glaciolacustrine deposits are recorded as unproductive strata.

Groundwater Vulnerability

The site is not located within a Source Protection Zone.

2.3.3 Hydrology

Nearest Surface Water Feature

The closest water feature is the River Wreake approximately 440m south west of the site and orientated north west to south east.

2.3.4 Flood Risk

The site is not located within an Environment Agency Zone 2 or Zone 3 floodplain.

The site does not lie within an area benefitting from flood defences or within an area used for flood storage.

Although the report provides information on flood risk this does not constitute a flood risk assessment for the site. The flood risk information provided only relates to flooding from Rivers or Seas and does not account for flooding from other sources such as groundwater, blockages in drainage systems, artificial water features and overland flow. A separate Flood Risk Assessment may be required for the site.

2.3.5 Radon

Mapping provided by the National Radon Protection Board indicates that the site does not lie within an area likely to require radon protection measures, however a radon report for the site should be obtained before development takes place.

2.3.6 Sensitive Land Uses, Ecological and Statutory Designations

The site is located within a surface water Nitrate Vulnerable Zone.

No other records of sensitive land use (SSSI, SAC, Nature Reserves, Environmentally Sensitive Areas, etc) have been identified within a 500m radius of the site.

3. Fieldwork & Factual Information

Site work was carried out on the 1st March 2017. Where applicable, the fieldwork was undertaken in accordance with BS5930:2015 Code of Practice for Site Investigations (Ref. 6) and BS10175:2011+A1:2013 Investigation of Potentially Contaminated Sites (Ref. 8).

3.1 Exploratory Methods

The physical methods of investigation employed were 3No. window sample boreholes to a maximum depth of 5.00m begl The exploratory holes were logged and sampled by an engineer from HSP Consulting Engineers Ltd and the exploratory hole logs are presented in Appendix II. The exploratory hole locations are shown on the Ground Investigation Layout Plan presented in Appendix III.

Fragmentary disturbed and undisturbed samples were recovered from materials revealed within all of the exploratory holes. Geo-environmental samples, placed in plastic tubs and glass jars supplied by the laboratory, were also obtained specifically for chemical analysis. The samples were taken to UKAS accredited laboratories for further examination and testing.

3.2 In-situ Testing

3.2.1 Standard Penetration Tests

Standard Penetration Tests (SPT's) were carried out at 1.00m intervals to refusal within the window sample boreholes The SPT's were undertaken in accordance with BS 1377:1990 (Part 9) and the results are included on the appended borehole logs (Appendix II).

3.3 Laboratory Testing

The laboratory testing schedules were prepared by HSP Consulting Engineers Ltd.

3.3.1 Geotechnical Testing

Geotechnical testing has been undertaken by a UKAS accredited laboratory as part of the works at the site:

- Atterburg Limits
- Natural Moisture Content
- Particle Size Distributions

The laboratory testing has been carried out by Professional Soil Laboratory (PSL) (UKAS accredited, laboratory No.4043) in accordance with BS1377:1990 using calibrated equipment specifically for the British Standard.

3.3.2 Chemical Analysis

The geo-environmental samples retained specifically for chemical analysis were stored in cooled containers until delivery to the laboratory by courier.

Chemical analysis was scheduled on three soil samples for the presence of a selected suite of potential contaminants as outlined in the tables below:

Exploratory Hole Location & Depth	Sample Description
WS1 0.80m	Made Ground ^{1,4}
WS2 0.40m	Made Ground ^{1,3,4}
WS3 0.70m	Made Ground ^{1,3,4}

¹ Geo-environmental Analysis, ² SD1 Basic Sulphate Suite, ³ Total Organic Matter, ⁴ Asbestos Screen.

Metals	Cadmium	Chromium (III & VI)	Copper
	Lead	Mercury	Nickel
	Zinc		
Semi Metals and Non-metals	Arsenic	Boron	Selenium
Others	pH	Asbestos	
Inorganic Chemicals	Cyanide	Sulphate	Sulphide
Organic Chemicals	PAH (US EPA 16)	TPH (CWG)	Phenol

The contamination analysis was carried out by Chemtech Ltd (UKAS accredited, laboratory No. 032) during the period 6th to 13th March 2017. The results are presented in Appendix V.

3.4 Ground Conditions

3.3.3 Published Geology

The published geology indicates the site is underlain by glaciolacustrine superficial deposits comprising clay sand and silt and Blue Lias Formation bedrock deposits as described in section 2.2.3 above.

3.5 Ground Conditions on site or General Geology & Revealed Strata

The exploratory holes confirm the published information, although the base of the glaciolacustrine deposits was not penetrated. The strata generally comprises:

Table 1 – Encountered Ground Conditions

	Strata	Depth (m begl)	Thickness (m)	Description
Anthropogenic	MADE GROUND	G.L – 0.40	0.40m	MADE GROUND comprising asphalt concrete
	MADE GROUND	G.L – 0.10	0.10m	MADE GROUND comprising COBBLES of brick.
	MADE GROUND	0.20 – 0.60	0.40m	MADE GROUND comprising sandy GRAVEL of granite, ash and mixed lithology.
	MADE GROUND	0.45 – 1.10	0.65m	MADE GROUND comprising sandy gravelly CLAY with gravel of mixed lithology.
Superficial	GLACIOLACUSTRINE DEPOSITS	1.10 – 3.40	0.90m	Orangish brown clayey SAND.
	GLACIOLACUSTRINE DEPOSITS	1.10 – 4.20	2.40m	Firm to stiff yellowish brown and reddish brown sandy gravelly CLAY with gravel of mixed lithology.
	GLACIOLACUSTRINE DEPOSITS	2.80 – 5.00	1.50m	Reddish brown SAND.

3.6 Groundwater Levels

Groundwater was encountered in WS2 at 4.30m begl and WS3 at 4.20m begl during the ground investigation.

3.6 Ground Gas Monitoring

Ground gas monitoring was not undertaken as part of the intrusive investigation. No plausible sources of ground gas have been identified in the site vicinity.

4. Geotechnical Assessment

4.1 Detailed Ground Model

For the purposes of this assessment the window sample borehole information has been utilised. The exploratory hole logs are presented in Appendix II.

4.1.1 Made Ground

Made Ground was encountered in all locations. The surface covering generally comprised asphalt concrete overlying gravel sub-base to a maximum depth of 0.60m begl. In WS1 the asphalt concrete was overlain by block paving. The hard-standing was underlain by dark grey sandy gravelly CLAY with gravel of mixed lithology to a maximum depth of 1.10m begl.

4.1.2 Glaciolacustrine Deposits

The Made Ground was underlain by superficial glaciolacustrine deposits variously comprising orangish brown clayey fine to coarse SAND to a maximum depth of 3.40m begl in WS1 and WS3. Orangish brown sandy GRAVEL of mixed lithology was identified in WS3 to a depth of 1.60m begl.

Very soft to stiff orangish brown and yellowish brown sandy, locally gravelly, CLAY was encountered in all locations to a maximum depth of 4.20m begl interbedded with reddish brown fine to coarse SAND to a maximum proven depth of 5.00m begl.

4.1.3 In-situ Testing and Assessment

A series of Standard Penetration Tests (SPT's) undertaken within the window sample boreholes have returned SPT 'N' values in the range of 7 - 21 at 1.00m depth within the natural deposits. The following table summarises the N values at depth across the likely proposed building footprint.

Table 2 – SPT N Values

Depth (m)	Range of 'N' Values	Mean 'N' Value	Description
1.00	7 – 21	12	SAND/GRAVEL/CLAY
2.00	6 – 10	8	SAND/CLAY
3.00	2 – 20	12	SAND/CLAY
4.00	16 - 30	25	SAND/CLAY
5.00	17-47	36	SAND/CLAY

Three particle size distribution (P.S.D.) tests have been undertaken to confirm the visual description and engineering behaviour of the superficial deposits.

Three plasticity index and moisture content tests have been undertaken in the laboratory on disturbed samples of the fine deposits. The plasticity index of the fine deposits is in the range 10 to 17%. The modified plasticity index of the fine soils are in the range 10% to 17% indicating soils of low to intermediate plasticity (CL to CI) after the classification system of BS5930: 2015. These soils are generally considered to be of low Volume Change Potential in accordance with the National House Building Council (NHBC) Standards, Chapter 4.2: 2007.

Sample Ref:	Laboratory Material Descriptions	LL (%)	PL (%)	PI (%)	% passing 425µm	Modified PI (%)*	Soil Class	MC (%)
WS1 @ 2.50m	<i>Brown sandy CLAY</i>	38	21	17	100	17	CI	25
WS2 @ 1.50m	<i>Brown very sandy CLAY</i>	26	16	10	100	10	CL	9.2
WS3 @ 1.70m	<i>Brown sandy CLAY</i>	36	19	17	100	17	CI	25

4.2 Earthworks

At this time we envisage that significant earthworks will not be required given the current ground levels and proposed development plan.

4.3 Excavations

Variable soil strengths were recorded across the site and therefore instability of excavations through natural soils should be anticipated across the site, instability of any Made Ground encountered should be allowed for. All excavations should be carried out in accordance with CIRIA Report 97 'Trenching Practice'.

It is recommended that all support systems are continually assessed by fully trained or experienced personnel.

Groundwater was encountered between 4.20m and 4.30m begl during drilling, groundwater may be encountered during site works. It should be noted that groundwater levels may vary due to seasonal variations or other effects. Should shallow groundwater entries be encountered at the site during groundwork operations, traditional sump and pump dewatering may not be sufficient if required.

4.4 Foundations

The current development proposals indicate an accessible public convenience block.

For the purpose of this foundation assessment, the information gained from all the window sample boreholes has been utilised.

The Made Ground encountered is not considered to be suitable as a formation layer.

The tables below indicate the indicative allowable bearing pressure (ABP) that could be achieved using strip or pad foundations across the building footprint. An ABP has been calculated using the mean of the corrected SPT $(N_1)_{60}$ values for the borehole group at 1m intervals from the existing ground level.

Table 3 – Indicative Allowable Bearing Pressures

Depth (m)	Mean SPT 'N ₁₆₀ ' Value	Eurocode 7 Soil Strength Description	Consistency (BS5930) Description	Approximate ABP (kN/m ²) – 0.60m wide strip footing	Approximate ABP (kN/m ²) – 2x2m pad footing
1.00	14.28	Medium Strength	Firm/Medium Dense	50	50
2.00	9.52	Low Strength	Soft/Loose	85	90
3.00	13.69	Medium Strength	Firm/Medium Dense	85	90

Required loads for the proposed toilet block are not known at this stage. The natural glaciolacustrine superficial deposits are considered to be suitable as a formation layer from a minimum depth of 1.10m.

At the above depth HSP would recommend that an allowable bearing pressure of 65kN/m² should be readily achievable when utilising a 0.60m wide strip foundation in the fine and coarse soils with a reinforced strip foundation or a raft foundation to overcome differential settlement.

Alternatively a deepened strip footing founding in the fine deposits at a minimum depth of 1.60m could be used.

Suspended floor slabs will be required due to the depth of Made Ground. Alternatively the Made Ground could be partially removed to reduce cover to 600m depth and replaced with suitably compacted aggregate to allow the use of a ground bearing floor slab.

4.5 Ground Floor Slab

Suspended floor slabs will be required due to the depth of Made Ground. Alternatively the Made Ground could be partially removed to reduce cover to 600m depth and replaced with suitably compacted aggregate to allow the use of a ground bearing floor slab.

4.6 Concrete Classification

The results of sulphate and pH testing carried out on selected soil samples taken during this investigation have been compared with the recommendations outlined in BRE Special Digest 1, Part 1: 2005.

The guidelines given in BRE Special Digest 1 are based upon a site classification relating to its previous usage. It is considered appropriate to define this site as a 'brownfield site' for the purposes of concrete classification.

On the basis of the above, it is considered appropriate to adopt a basic Design Sulphate Class of DS-2 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-2.

4.7 Drainage

No soakaway or permeability testing was carried out on the underlying soils at the site at the time of this site investigation. Due to the fine nature of the underlying soils it is unlikely that soakaway drainage will be feasible at the site.

5. Environmental Assessment

5.1 Introduction

The approach to the human health risk assessment reported here follows the principals given in CRL 11, i.e. application of the following assessment hierarchy:

- Tier 1 risk screening by establishment of potential pollutant linkages, i.e. the preliminary conceptual site model (PCSM), or
- Tier 2 generic quantitative assessment using generic assessment criteria (GACs) that represent 'acceptably low' risk, or
- Tier 3 quantitative risk assessment using site specific assessment criteria (SSACs) that represent 'unacceptable risk', or where generic assessment criteria are not available or they are not applicable to the CSM.

The results of laboratory analysis have been screened against GACs including the DEFRA Category 4 Screening Levels (C4SL) and LQM and CIEH S4ULs for Human Health Risk Assessment (Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3180. All rights reserved). (Refs 10 and 11).

The standard scenarios of commercial and public open space (park) have been used to identify potential exposure pathways for human health receptors (to cover site users and site workers). Controlled water, flora and fauna and property receptors have also been included within the CSM.

It should be noted that organic contamination (PAH, TPH and BTEX) have been screened against the GAC for 1% Soil Organic Matter (SOM).

The assessment of PAHs is undertaken using the surrogate marker approach; recommended by Health Protection Agency (2010) guidance, providing the PAH profile is sufficiently similar to the coal tars tested by Culp et al (1998). Where PAH profile is not sufficiently coal tar like the TEF method is adopted using the LQM and CIEH S4ULs.

5.2 Assessment of Soil Analysis Results

Three samples, as detailed in section 3.3.2, were scheduled for analysis from the development area. These provide a basis for characterising the soils to outline the potential impacts on human health and any environmental receptors from any contamination found. The PAH profile was not sufficiently similar to coal tars to apply the surrogate marker approach, all PAHs are compared to the LQM and CIEH S4ULs.

The screening process for on-site human health receptors show that the GACs, representative of minimal risk for commercial and public open space settings were not exceeded. The results for the potential contaminants of concern were all below the screening criteria for individual contaminant concentrations.

Three of the soil samples derived of Made Ground were submitted for asbestos screen and identification. No asbestos was identified.

We therefore consider that there is no potential risk associated with the interaction between the near surface soils and end users of the site including construction workers for the

proposed end use, mitigation measures should not be required. Good working practise recommendations are made in Section 5.3 below.

5.3 Human Health Mitigation

The concentrations of potential contaminants recorded at the site are not considered to pose a significant possibility of significant harm to the proposed end use of the site.

Should any obvious evidence of unexpected contamination be encountered during the redevelopment works it should be reported to HSP so that an inspection can be made and appropriate sampling and assessment work be carried out.

Appropriate health and safety precautions should be adopted during any excavation works to avoid exposure to potentially contaminated soils and dust. Consideration should be given to the HSE document HSG 66 'Protection of workers and the General Public during Redevelopment of Contaminated Land'.

Three samples of made ground were submitted for asbestos testing. No asbestos was identified in any of the samples.

The approval of the local Environmental Health Officer should be sought with respect to the soil contamination assessment and mitigation proposals.

5.4 Water Supply

The environmental testing for the site has been compared to the following document in order to assess the most appropriate pipe material that should be used upon the site for mains water supply:

'Guidance for the selection of water supply pipes to be used in Brownfield sites – UK Water Industry Research – Ref: 10/WM/03/21.'

Based on the chemical analysis report, it is considered that specialist materials are unlikely to be required for water supply pipes at the site. However confirmation of supply pipes should be sought from utility providers.

5.5 Waste Classification

The results of the chemical testing have been assessed using web-based software for classifying hazardous waste, using HazWasteOnline™. The levels of TPHs in samples from WS1 and WS2 indicate the Made Ground material found across the site is likely to be classified as Potentially Hazardous Waste. The results are included in Appendix VI.

5.6 Conceptual Site Model

Based on the findings of this investigation a conceptual site model has been produced and is present below:

Table 6 - Updated Conceptual Site Model.

Source	Pathway	Receptor	Consequence	Probability	Risk	Comments
On site S1: Made Ground associated with the development of the site	P1: Human uptake pathways <ul style="list-style-type: none"> • direct contact, • ingestion of soils and dust, • inhalation of fugitive dust. 	R1: End Users R2: Construction and maintenance workers	Mild	Unlikely	Very Low	Elevated concentrations of contaminants have not been identified within the made ground and natural material on site, therefore mitigation measures are not required. The risk is considered to be VERY LOW.
	P2: Horizontal and vertical migration of contaminants through potentially permeable soils and rocks. P3: Migration of contaminants along preferential pathways (man- made). P4: Surface runoff.	R3: Controlled Water: Groundwater & Surface Water	Mild	Unlikely	Very Low	The underlying geology comprises glaciolacustrine superficial deposits which are classified as unproductive strata and Blue Lias Formation bedrock deposits which are classified as a Secondary Undifferentiated Aquifer. Elevated concentrations of contaminants have not been identified within the made ground and natural material on site. Based on the information available, the risk to surface water and groundwater is considered to be VERY LOW.
Off Site (within 250m) S2: Made Ground associated with development in the area S3: Historical & Contemporary Land Use: commercial areas	P2: Horizontal and vertical migration of contaminants through potentially permeable soils and rocks. P3: Migration of contaminants along preferential pathways (man- made). P4: Surface runoff. P5: Vertical and lateral migration of ground gases and/or vapour.	R1: End Users R2: Construction and maintenance workers	Mild	Unlikely	Very Low	Elevated concentrations of contaminants have not been identified within the made ground and natural material on site, therefore mitigation measures are not required. No plausible sources of ground gas have been identified in the site vicinity, therefore it is considered that the risk is VERY LOW.
	P2: Horizontal and vertical migration of contaminants through potentially permeable soils and rocks. P3: Migration of contaminants along preferential pathways (man- made). P4: Surface runoff. P5: Vertical and lateral migration of ground gases and/or vapour.	R4: Property, services and substructures R5: Adjacent Residential Properties	Mild	Unlikely	Very Low	The made ground and natural deposits may contain sulphates that present a risk to buried concrete. Testing indicates the soils are unlikely to be aggressive to concrete and it is considered appropriate to adopt a basic Design Sulphate Class of DS-2 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-2. The chemical analysis of the soils indicates specialist materials are unlikely to be required for water supply pipes at the site.
	P6: Root uptake.	R6: Proposed Flora and fauna	Mild	Unlikely	Very Low	The risk of uptake to proposed flora and fauna is VERY LOW.

6. References

1. BRITISH GEOLOGICAL SURVEY. 2004 Melton Mowbray. England and Wales Sheet 142. Bedrock and Superficial Deposits. 1:50 000 (Keyworth, Nottingham: British geological Survey).
2. British Geological Survey Lexicon Search - <http://www.bgs.ac.uk/lexicon/>
3. Department for Environment, Food and Rural affairs and the Environment Agency (2002) Soil Guideline Value Reports for Individual Soil Contaminants. Report R&D SGV Series. Environment Agency. 2004. Model Procedures for the Management of Contaminated Land CLR 11.
4. Department of the Environment Industry Profiles.
5. Site Investigation in Construction, Volume 3, Specification for Ground Investigation 2nd Edition.
6. BS 5930:2015 Code of Practice for Site Investigations.
7. BS 8576:2013 Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs)
8. BS 10175:2001 + A1:2013 Investigation of Potentially Contaminated Sites - Code of Practice.
9. NHBC Standards, Chapter 4.2, Building near trees.
10. Nathanail, C.P., McCaffrey, C., Gillett, A.G., Ogden, R.C. and Nathanail, J.F. 2015. The LQM/CIEH S4ULs for Human Health Risk Assessment. Land Quality Press, Nottingham.
11. Department for Environment, Food and Rural Affairs and Contaminated Land: Applications in Real Environments (CL:AIRE) (December 2013). SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination.
12. BRE Special Digest 1:Concrete in Aggressive Ground, 2005, Building Research Establishment.
13. CL:AIRE The definition of Waste: Development Industry Code of Practice, 2008.
14. NHBC & RSK Group Plc, March 2007. Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present. Ed 4.
15. CIRIA C665 'Assessing Risks Posed by Hazardous Ground Gases to Buildings'

Appendix I

Appendix II

Borehole Log

Borehole No.

WS1

Sheet 1 of 1

Project Name: Wilton Road	Project No. C2521	Co-ords: -	Hole Type WS
Location: Melton Mowbray	Level:		Scale 1:50
Client: Gleeds Building Surveying Ltd	Dates: 01/02/2017 - 01/02/2017		Logged By LB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10			0.10		MADE GROUND - Reddish brown angular cobbles. Cobbles of brick.		
		0.20			0.20		MADE GROUND - Asphalt concrete.		
		0.50	J		0.60		MADE GROUND - Light reddish brown sandy. Sand is fine to coarse. Gravel is fine to coarse sub angular of granite (Sub base).		
		0.80	J		1.10		MADE GROUND - Dark grey sandy gravelly clay. Low plasticity. Gravel is fine to coarse angular to rounded of mixed lithologies.	1	
		1.00		N=7 (0,0/2,2,1,2)	1.60		Orangish brown clayey SAND. Sand is fine to coarse.		
		1.50	D		2.00		Firm orangish brown sandy CLAY. High plasticity.	2	
		2.00		N=9 (2,2/2,2,3,2)	2.80		Reddish brown SAND. Sand is fine to coarse.	3	
		2.50	D		3.50		Very soft to soft orangish brown sandy CLAY. High plasticity.	4	
		3.00		N=2 (1,1/1,0,1,0)	4.20		Reddish brown SAND. Sand is fine to coarse.	5	
		3.50	D		5.00		End of borehole at 5.00 m	6	
		4.00		N=30 (8,6/7,6,8,9)				7	
		4.50	D					8	
	5.00		N=47 (5,8/11,11,12,13)				9		
							10		

Remarks

- No groundwater was encountered during the drilling process.
- Borehole was terminated at 5.00m depth and backfilled with arisings.



Project Name: Wilton Road

 Project No.
C2521

Co-ords: -

 Hole Type
WS

Location: Melton Mowbray

Level:

 Scale
1:50

Client: Gleeds Building Surveying Ltd

Dates: 01/03/2017 - 01/03/2017

 Logged By
LB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
Well	▼	0.40	J		0.40		MADE GROUND - Asphalt concrete.	
		0.50	D		0.45		MADE GROUND - Black and brown sandy gravel. Gravel is fine to medium angular to rounded of ash and mixed lithology.	
		0.60	J				MADE GROUND - Dark grey sandy gravelly clay. Low plasticity. Gravel is fine to coarse angular to rounded of mixed lithology.	
		1.00		N=7 (2,1/1,2,2,2)	1.10		Firm orangish brown slightly gravelly very sandy CLAY. Low plasticity. Gravel is fine to coarse sub rounded of mixed lithology.	
		1.50	D					
		2.00		N=6 (1,1/1,2,1,2)				
		2.50	D					
		3.00		N=20 (3,3/4,4,6,6)				
		3.50	D		3.50		Reddish brown SAND. Sand is fine to coarse.	
		4.00		N=29 (5,6/6,7,8,8)			...with lenses of grey and yellowish brown sandy clay.	
5.00		N=43 (6,7/10,10,12,11)	5.00		End of borehole at 5.00 m			

Remarks

- Ground water was encountered during the drilling process at 4.30m depth.
- Borehole was terminated at 5.00m depth and backfilled with arisings.

Borehole Log

Borehole No.

WS3

Sheet 1 of 1

Project Name: Wilton Road

Project No.
C2521

Co-ords: -

Hole Type
WS

Location: Melton Mowbray

Level:

Scale
1:50

Client: Gleeds Building Surveying Ltd

Dates: 01/03/2017 - 01/03/2017

Logged By
LB

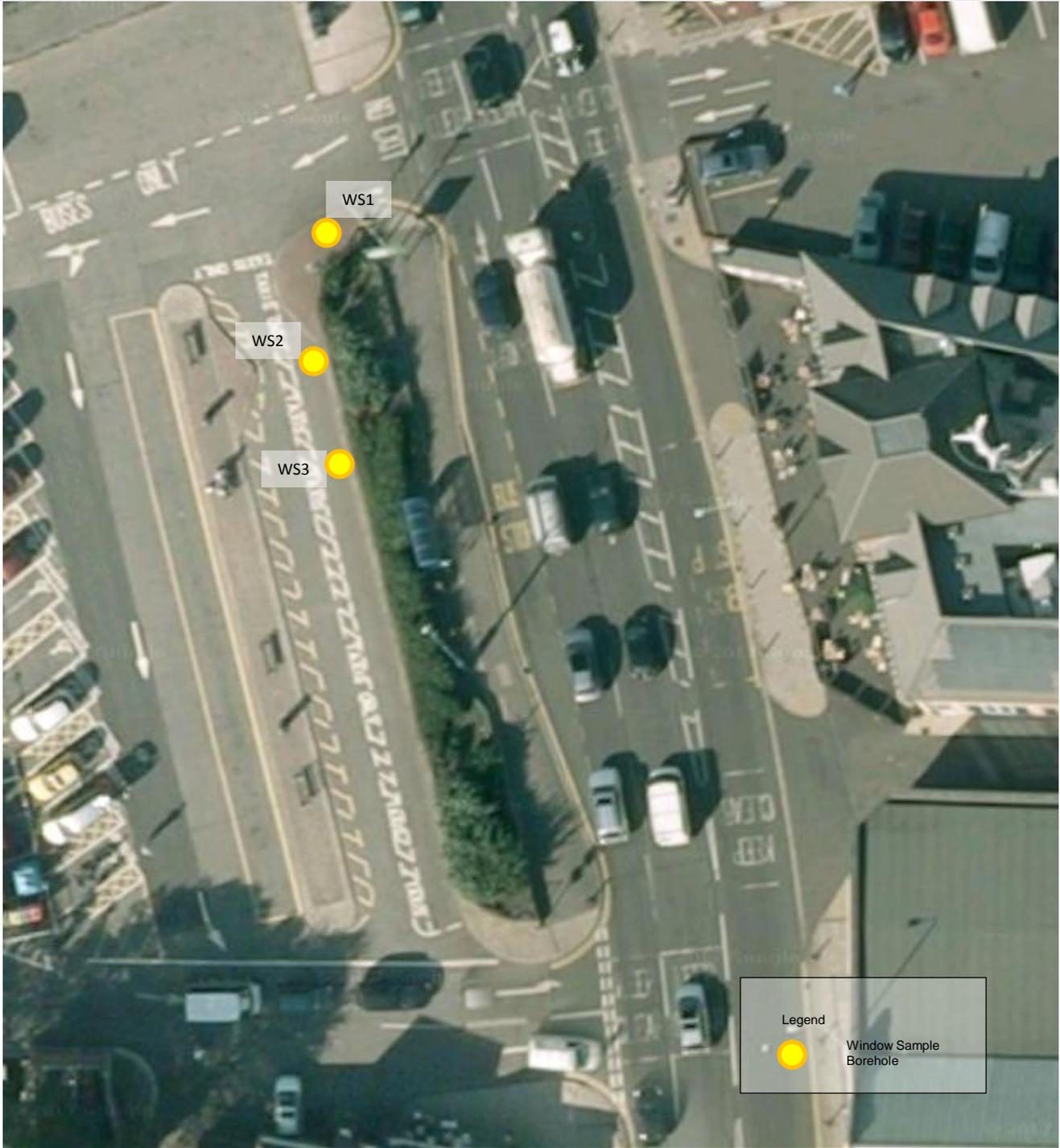
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.40			MADE GROUND - Asphalt concrete.
					0.45			MADE GROUND - Black and brown sandy gravel. Gravel is fine to medium angular to rounded of ash and mixed lithology.
		1.00		N=21 (1,3/4,6,6,5)	1.10			MADE GROUND - Dark grey sandy gravelly clay. Low plasticity. Gravel is fine to coarse angular to rounded of mixed lithology.
		1.50	D		1.60			Orangish brown sandy GRAVEL. Gravel is fine to coarse angular to sub angular of mixed lithologies.
		1.70	D			Firm yellowish brown sandy CLAY. High plasticity. High plasticity.		
		2.00		N=10 (2,3/3,2,3,2)	2.30			Orangish brown and yellowish brown clayey SAND. Sand is fine to coarse.
		2.50	D		3.00			...with lenses of yellowish brown and greenish grey sandy clay.
		3.00		N=14 (2,2/3,3,4,4)		3.40		
		3.50	D		4.20			Reddish brown SAND. Sand if fine to coarse.
		4.00		N=16 (2,2/3,4,5,4)		5.00		

Remarks

1. Ground water was encountered during the drilling process at 4.20m depth.
2. Borehole was terminated at 5.00m depth and backfilled with arisings.



Appendix III



Client Gleeds Building Surveying Ltd	Scale NTS	Rev. By	Date	Details	Chkd	
	Date Mar 2017	Drawing Status		INFORMATION		
Project Wilton Road, Melton Mowbray	Drawn By LEB	 Lawrence House, Meadowbank Way, Eastwood, Nottingham, NG16 3SB Tel: 0870 600 6090 www.hspconsulting.com				
	Checked By LEB					
Title Site Investigation Layout Plan	HSP Drg. No.					Rev.
	C2521-SK3a					

Appendix IV



LABORATORY REPORT



4043

Contract Number: PSL17/0961

Report Date: 09 March 2017
Client's Reference: C2521
Client Name: HSP Consulting
Lawrence House
4 Meadowbank Way
Eastwood
Nottingham
NG16 3SB

For the attention of: Luke Bradley

Contract Title: Wilton Road, Melton Mowbray
Date Received: 3/3/2017
Date Commenced: 3/3/2017
Date Completed: 9/3/2017

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

R Gunson
(Director)

A Watkins
(Director)

R Berriman
(Quality Manager)

L Knight
(Senior Technician)

S Royle
(Senior Technician)

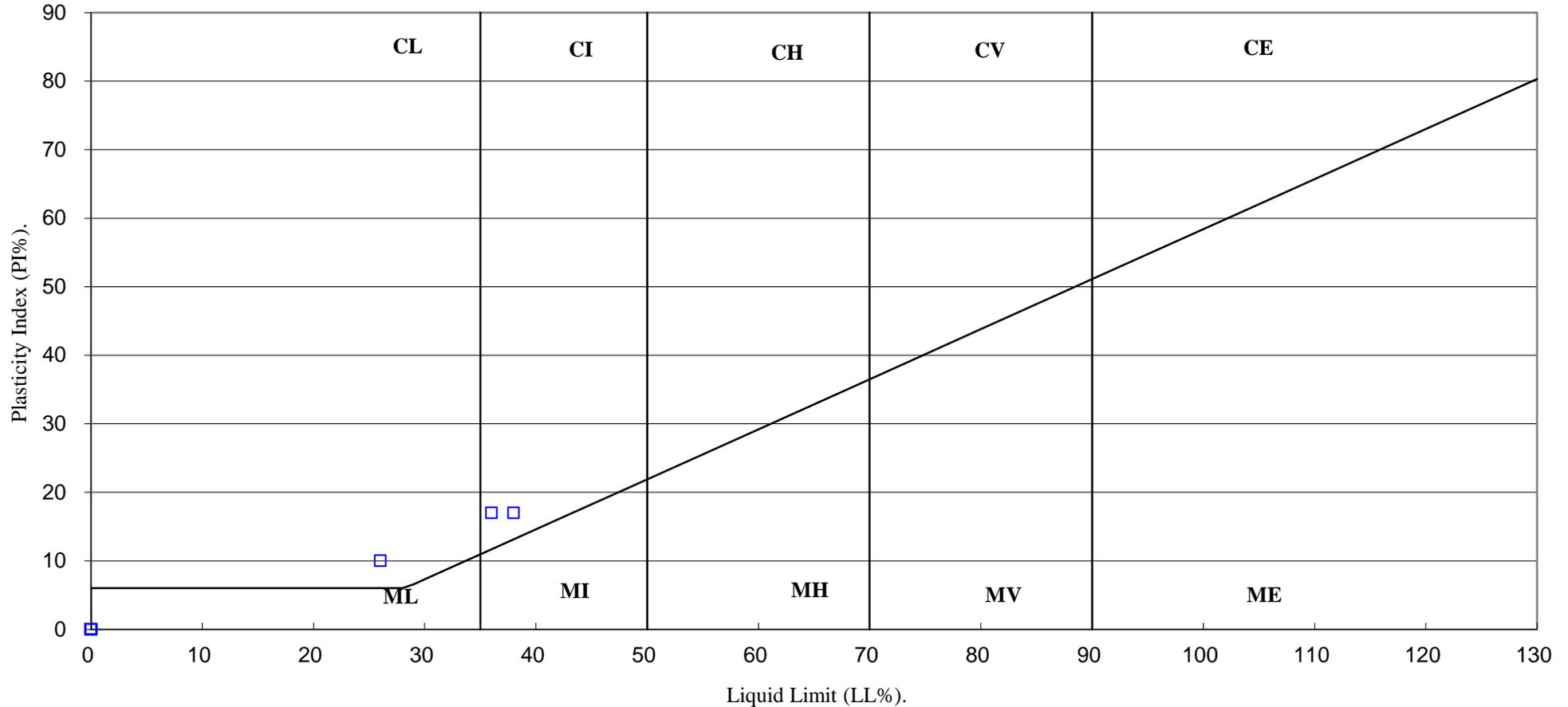
A Fry
(Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: rgunson@prosoils.co.uk
awatkins@prosoils.co.uk

Page 1 of

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(BS5930 :2015)



PSL
Professional Soils Laboratory

Wilton Road, Melton Mowbray

Contract No:

PSL17/0961

Client Ref:

C2521



DETS

Certificate of Analysis

Certificate Number 17-93577

15-Mar-17

Client Professional Soils Laboratory Ltd
5/7 Hexthorpe Road
Hexthorpe
DN4 0AR

Our Reference 17-93577

Client Reference PSL17/0961

Order No (not supplied)

Contract Title C2521-WILTON ROAD, MELTON MOWBRAY

Description 2 Soil samples.

Date Received 07-Mar-17

Date Started 07-Mar-17

Date Completed 15-Mar-17

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Rob Brown
Business Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 17-93577

Client Ref PSL17/0961

Contract Title C2521-WILTON ROAD, MELTON MOWBRAY

Lab No	1139406	1139407
Sample ID	WS2	WS3
Depth	1.50	1.70
Other ID		
Sample Type	SOIL	SOIL
Sampling Date	03/03/17	03/03/17
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Metals					
Magnesium Aqueous Extract	DETSC 2076*	10	mg/l	< 10	< 10
Inorganics					
pH	DETSC 2008#			8.2	9.2
Chloride Aqueous Extract	DETSC 2055	1	mg/l	15	14
Nitrate Aqueous Extract as NO3	DETSC 2055	1	mg/l	< 1.0	3.9
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	32	550
Sulphur as S, Total	DETSC 2320	0.01	%	0.02	0.07
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.06	0.16

Information in Support of the Analytical Results

Our Ref 17-93577
 Client Ref PSL17/0961
 Contract C2521-WILTON ROAD, MELTON MOWBRAY

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1139406	WS2 1.50 SOIL	03/03/17	PT 500ml		
1139407	WS3 1.70 SOIL	03/03/17	PT 500ml		

Key: P-Plastic T-Tub
 DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
 Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
 The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
 Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix V



2531



ANALYTICAL TEST REPORT

Contract no: 63672
Contract name: Wilton Road
Client reference: C2121
Clients name: HSP Consulting
Clients address: Lawrence House
Meadowbank Way
Eastwood, Nottingham
NG16 3SB

Samples received: 06 March 2017

Analysis started: 06 March 2017

Analysis completed 13 March 2017

Report issued: 13 March 2017

Notes: Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key: U UKAS accredited test
M MCERTS & UKAS accredited test
\$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing
NAD No Asbestos Detected

Approved by:

James Spittle
Customer Services Team Leader

Chemtech Environmental Limited

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
63672-1	WS1	0.80	Clay	-	-	22.6
63672-2	WS2	0.40	Sand with Slag	-	-	20.5
63672-3	WS3	0.70	Clay	-	-	18.5

Chemtech Environmental Limited

SOILS

Lab number			63672-1	63672-2	63672-3
Sample id			WS1	WS2	WS3
Depth (m)			0.80	0.40	0.70
Date sampled			01/03/2017	01/03/2017	01/03/2017
Test	Method	Units			
Arsenic (total)	CE127 ^M	mg/kg As	19	20	22
Boron (water soluble)	CE063 ^M	mg/kg B	1.1	1.0	2.2
Cadmium (total)	CE127 ^M	mg/kg Cd	0.2	0.2	0.2
Chromium (total)	CE127 ^M	mg/kg Cr	66	93	77
Copper (total)	CE127 ^M	mg/kg Cu	27	92	24
Lead (total)	CE127 ^M	mg/kg Pb	58	31	34
Mercury (total)	CE127 ^M	mg/kg Hg	<0.5	<0.5	<0.5
Nickel (total)	CE127 ^M	mg/kg Ni	23	66	30
Selenium (total)	CE127 ^M	mg/kg Se	1.2	1.2	1.1
Zinc (total)	CE127 ^M	mg/kg Zn	117	65	127
pH	CE004 ^M	units	7.4	8.5	7.8
Sulphate (2:1 water soluble)	CE061 ^M	mg/l SO ₄	102	82	26
Sulphur (free)	CE034 ^M	mg/kg S	<10	50	<10
Sulphide	CE079	mg/kg S ²⁻	<10	<10	<10
Cyanide (free)	CE077	mg/kg CN	<1	<1	<1
Cyanide (total)	CE077 ^M	mg/kg CN	<1	<1	<1
Phenols (total)	CE078	mg/kg PhOH	<0.5	<0.5	<0.5
Total Organic Carbon (TOC)	CE072 ^M	% w/w C	-	8.70	1.02
Estimate of OMC (calculated from TOC)	CE072 ^M	% w/w	-	15.00	1.76
PAH					
Naphthalene	CE087 ^M	mg/kg	<0.01	<0.01	<0.01
Acenaphthylene	CE087 ^M	mg/kg	<0.01	<0.01	<0.01
Acenaphthene	CE087 ^M	mg/kg	<0.01	<0.01	<0.01
Fluorene	CE087 ^U	mg/kg	<0.01	<0.01	<0.01
Phenanthrene	CE087 ^M	mg/kg	0.07	0.06	0.05
Anthracene	CE087 ^U	mg/kg	0.08	0.04	0.04
Fluoranthene	CE087 ^M	mg/kg	0.19	0.18	0.12
Pyrene	CE087 ^M	mg/kg	0.16	0.21	0.09
Benzo(a)anthracene	CE087 ^U	mg/kg	0.10	0.13	<0.02
Chrysene	CE087 ^M	mg/kg	0.13	0.16	0.03
Benzo(b)fluoranthene	CE087 ^M	mg/kg	<0.02	0.09	<0.02
Benzo(k)fluoranthene	CE087 ^M	mg/kg	<0.02	0.14	<0.02
Benzo(a)pyrene	CE087 ^U	mg/kg	0.02	0.07	<0.02
Indeno(123cd)pyrene	CE087 ^M	mg/kg	0.15	<0.02	<0.02
Dibenz(ah)anthracene	CE087 ^M	mg/kg	<0.02	<0.02	<0.02
Benzo(ghi)perylene	CE087 ^M	mg/kg	0.21	<0.02	<0.02
PAH (total of USEPA 16)	CE087	mg/kg	1.11	1.08	0.32
TPH					
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01	<0.01	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01	<0.01	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01	<0.01	<0.01

Chemtech Environmental Limited

SOILS

Lab number			63672-1	63672-2	63672-3
Sample id			WS1	WS2	WS3
Depth (m)			0.80	0.40	0.70
Date sampled			01/03/2017	01/03/2017	01/03/2017
Test	Method	Units			
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1	<1	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1	<1	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	<1	<1	<1
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	<1	<1	<1
EPH Aromatic (>EC35-EC44)	CE068	mg/kg	<1	<1	<1
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1	<0.1	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1	<0.1	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1	0.1	<0.1
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4	<4	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	<4	<4	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	12	15	<10
EPH Aliphatic (>C35-C44)	CE068	mg/kg	<10	<10	<10
Subcontracted analysis					
Asbestos (qualitative)	\$	-	NAD	NAD	NAD

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE063	Boron (water soluble)	Hot water extract, ICP-OES	Dry	M	0.5	mg/kg B
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE004	pH	Based on BS 1377, pH Meter	Wet	M	-	units
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	M	10	mg/l SO ₄
CE034	Sulphur (free)	Solvent extraction, HPLC	Dry	M	10	mg/kg S
CE079	Sulphide	Extraction, Continuous Flow Colorimetry	Wet		10	mg/kg S ²⁻
CE077	Cyanide (free)	Extraction, Continuous Flow Colorimetry	Wet		1	mg/kg CN
CE077	Cyanide (total)	Extraction, Continuous Flow Colorimetry	Wet	M	1	mg/kg CN
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	Wet		0.5	mg/kg PhOH
CE072	Total Organic Carbon (TOC)	Removal of IC by acidification, Carbon Analyser	Dry	M	0.1	% w/w C
CE072	Estimate of OMC (calculated from TOC)	Calculation from Total Organic Carbon	Dry	M	0.1	% w/w
CE087	Naphthalene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	Wet	U	0.01	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	Wet	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	Wet	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	Wet	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	Wet		0.27	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	Wet		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	Wet		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	Wet		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	Wet		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	Wet		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	Wet		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	Wet		1	mg/kg

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE068	EPH Aromatic (>EC35-EC44)	Solvent extraction, GC-FID	Wet		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	Wet		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	Wet		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	Wet		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	Wet		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	Wet		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	Wet		4	mg/kg
CE068	EPH Aliphatic (>C35-C44)	Solvent extraction, GC-FID	Wet		10	mg/kg
\$	Asbestos (qualitative)	HSG 248, Microscopy	Dry	U	-	-

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

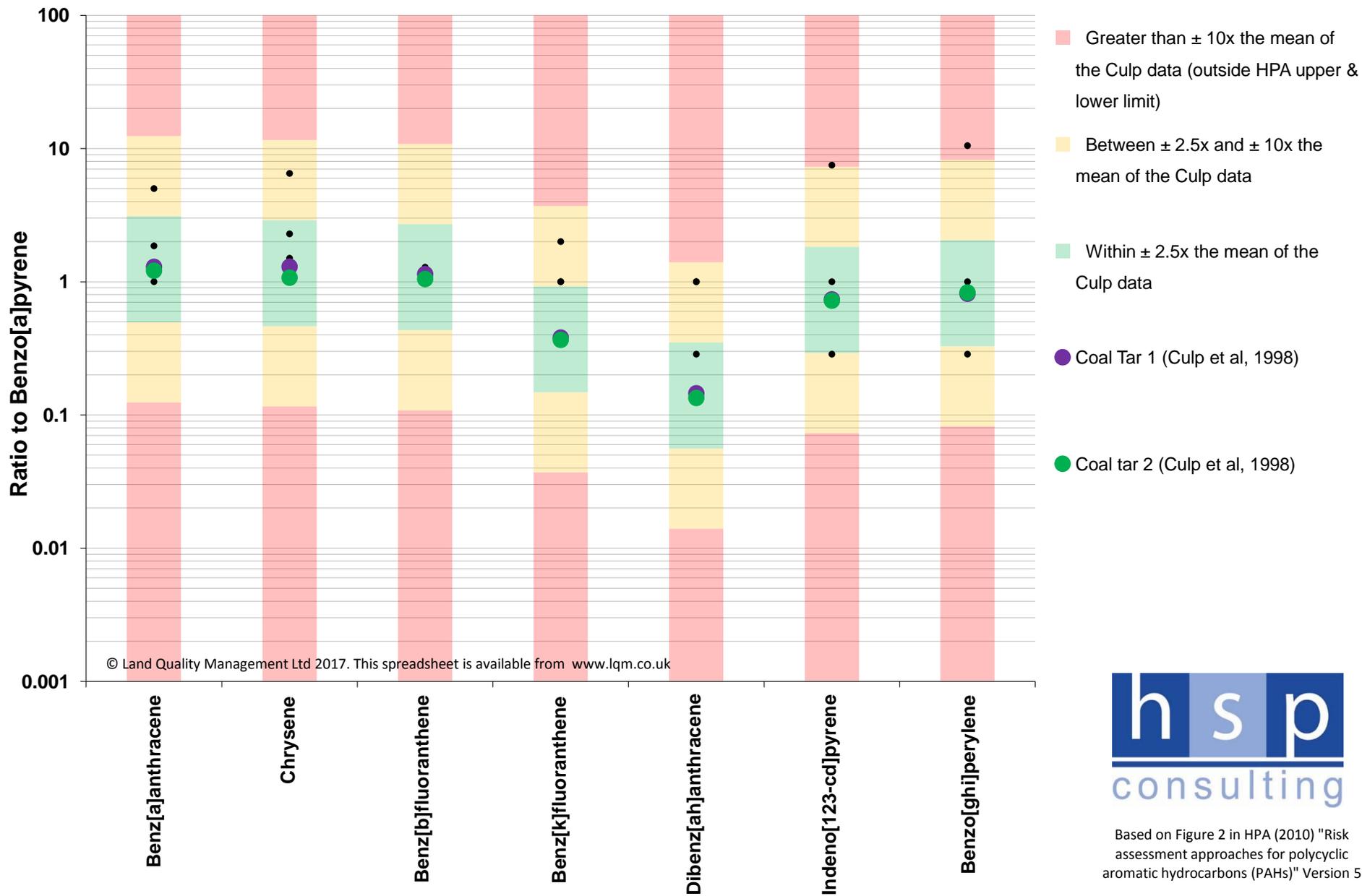
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
IT	Sample not cooled
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
63672-1	WS1	0.80	N	
63672-2	WS2	0.40	N	
63672-3	WS3	0.70	N	



Appendix VI

Waste Classification Report



WJ4VG-3R3LY-QNFG9

Job name

C2521 - Wilton Road, Melton Mowbray

Description/Comments

Project

Site

Waste Stream Template

Contaminated Soils Chemtest Determinand Order

Classified by

Name:
Luke Bradley
 Date:
3/14/2017 10:20:16 AM UTC
 Telephone:
01773 535555

Company:
HSP Consulting
Lawrence House
4 Meadowbank Way, Eastwood
Nottingham
NG16 3SB

Report

Created by: Luke Bradley
 Created date: 3/14/2017 10:20 UTC

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	WS1 0.80m		Potentially Hazardous	HP 3(i)	2
2	WS2 0.40m		Potentially Hazardous	HP 3(i)	4
3	WS3 0.70m		Non Hazardous		6

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Classification of sample: WS1 0.80m

*** Potentially Hazardous Waste**
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample Name:	WS1 0.80m	LoW Code:	
Sample Depth:	0 m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	0% (no correction)	Entry:	17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0012%)

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	pH				7.4 pH		7.4 pH	7.4 pH		
2	boron { boron tribromide/trichloride/trifluoride (combined) }				1.1 mg/kg	13.43	14.773 mg/kg	0.00148 %		
3	arsenic { arsenic trioxide }				19 mg/kg	1.32	25.086 mg/kg	0.00251 %		
4	cadmium { cadmium sulfide }			1	0.2 mg/kg	1.29	0.257 mg/kg	0.00002 %		
5	chromium in chromium(III) compounds { chromium(III) oxide }				66 mg/kg	1.46	96.463 mg/kg	0.00965 %		
6	copper { dicopper oxide; copper (I) oxide }				27 mg/kg	1.13	30.399 mg/kg	0.00304 %		
7	nickel { nickel dihydroxide }				23 mg/kg	1.58	36.328 mg/kg	0.00363 %		
8	lead { lead chromate }			1	58 mg/kg	1.56	90.469 mg/kg	0.0058 %		
9	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				1.2 mg/kg	2.55	3.064 mg/kg	0.000306 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
10	zinc { zinc chromate } 024-007-00-3				117 mg/kg	2.77	324.575 mg/kg	0.0325 %		
11	TPH (C6 to C40) petroleum group TPH				12 mg/kg		12 mg/kg	0.0012 %		
12	phenanthrene 201-581-5 85-01-8				0.07 mg/kg		0.07 mg/kg	0.000007 %		
13	anthracene 204-371-1 120-12-7				0.08 mg/kg		0.08 mg/kg	0.000008 %		
14	fluoranthene 205-912-4 206-44-0				0.19 mg/kg		0.19 mg/kg	0.000019 %		
15	pyrene 204-927-3 129-00-0				0.16 mg/kg		0.16 mg/kg	0.000016 %		
16	benzo[a]anthracene 601-033-00-9 200-280-6 56-55-3				0.1 mg/kg		0.1 mg/kg	0.00001 %		
17	chrysene 601-048-00-0 205-923-4 218-01-9				0.13 mg/kg		0.13 mg/kg	0.000013 %		
18	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3 200-028-5 50-32-8				0.1 mg/kg		0.1 mg/kg	0.00001 %		
19	indeno[123-cd]pyrene 205-893-2 193-39-5				0.15 mg/kg		0.15 mg/kg	0.000015 %		
20	benzo[ghi]perylene 205-883-8 191-24-2				0.21 mg/kg		0.21 mg/kg	0.000021 %		
Total:								0.0602 %		

Key

- User supplied data
- Potentially Hazardous result
- Determinand defined or amended by HazWasteOnline (see Appendix A)
-  Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration

CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: WS2 0.40m

*** Potentially Hazardous Waste**
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample Name:	WS2 0.40m	LoW Code:	
Sample Depth:	0 m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	0% (no correction)	Entry:	17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00151%)

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	pH		PH		8.5 pH		8.5 pH	8.5 pH		
2	boron { boron tribromide/trichloride/trifluoride (combined) }		10294-33-4, 10294-34-5, 7637-07-2		1 mg/kg	13.43	13.43 mg/kg	0.00134 %		
3	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	20 mg/kg	1.32	26.407 mg/kg	0.00264 %		
4	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	0.2 mg/kg	1.29	0.257 mg/kg	0.00002 %		
5	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9	93 mg/kg	1.46	135.925 mg/kg	0.0136 %		
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	92 mg/kg	1.13	103.582 mg/kg	0.0104 %		
7	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]	66 mg/kg	1.58	104.247 mg/kg	0.0104 %		
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	31 mg/kg	1.56	48.354 mg/kg	0.0031 %		
9	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }	034-002-00-8			1.2 mg/kg	2.55	3.064 mg/kg	0.000306 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
10	zinc { zinc chromate }				65 mg/kg	2.77	180.32 mg/kg		0.018 %		
	024-007-00-3										
11	TPH (C6 to C40) petroleum group				15.1 mg/kg		15.1 mg/kg		0.00151 %		
			TPH								
12	phenanthrene				0.06 mg/kg		0.06 mg/kg		0.000006 %		
		201-581-5	85-01-8								
13	anthracene				0.04 mg/kg		0.04 mg/kg		0.000004 %		
		204-371-1	120-12-7								
14	fluoranthene				0.18 mg/kg		0.18 mg/kg		0.000018 %		
		205-912-4	206-44-0								
15	pyrene				0.21 mg/kg		0.21 mg/kg		0.000021 %		
		204-927-3	129-00-0								
16	benzo[a]anthracene				0.13 mg/kg		0.13 mg/kg		0.000013 %		
	601-033-00-9	200-280-6	56-55-3								
17	chrysene				0.16 mg/kg		0.16 mg/kg		0.000016 %		
	601-048-00-0	205-923-4	218-01-9								
18	benzo[b]fluoranthene				0.09 mg/kg		0.09 mg/kg		0.000009 %		
	601-034-00-4	205-911-9	205-99-2								
19	benzo[k]fluoranthene				0.14 mg/kg		0.14 mg/kg		0.000014 %		
	601-036-00-5	205-916-6	207-08-9								
20	benzo[a]pyrene; benzo[def]chrysene				0.13 mg/kg		0.13 mg/kg		0.000013 %		
	601-032-00-3	200-028-5	50-32-8								
Total:									0.0614 %		

Key

- User supplied data
 - Potentially Hazardous result
 - Determinand defined or amended by HazWasteOnline (see Appendix A)
 -  Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: WS3 0.70m

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	WS3 0.70m	LoW Code:	
Sample Depth:	0 m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	0% (no correction)	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	•	pH			7.8	pH		7.8	pH	7.8 pH		
2	•	boron { boron tribromide/trichloride/trifluoride (combined) }			2.2	mg/kg	13.43	29.546	mg/kg	0.00295 %		
3	•	arsenic { arsenic trioxide }			22	mg/kg	1.32	29.047	mg/kg	0.0029 %		
4	•	cadmium { cadmium sulfide }		1	0.2	mg/kg	1.29	0.257	mg/kg	0.00002 %		
5	•	chromium in chromium(III) compounds { chromium(III) oxide }			77	mg/kg	1.46	112.54	mg/kg	0.0113 %		
6	•	copper { dicopper oxide; copper (I) oxide }			24	mg/kg	1.13	27.021	mg/kg	0.0027 %		
7	•	nickel { nickel dihydroxide }			30	mg/kg	1.58	47.385	mg/kg	0.00474 %		
8	•	lead { lead chromate }		1	34	mg/kg	1.56	53.034	mg/kg	0.0034 %		
9	•	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }			1.1	mg/kg	2.55	2.809	mg/kg	0.000281 %		
10	•	zinc { zinc chromate }			127	mg/kg	2.77	352.317	mg/kg	0.0352 %		
11	•	phenanthrene			0.05	mg/kg		0.05	mg/kg	0.000005 %		
12	•	anthracene			0.04	mg/kg		0.04	mg/kg	0.000004 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
13	fluoranthene	205-912-4	206-44-0		0.12 mg/kg		0.12 mg/kg	0.000012 %		
14	pyrene	204-927-3	129-00-0		0.09 mg/kg		0.09 mg/kg	0.000009 %		
15	chrysene	601-048-00-0	205-923-4		0.03 mg/kg		0.03 mg/kg	0.000003 %		
Total:								0.0635 %		

Key

- User supplied data
 - Determinand defined or amended by HazWasteOnline (see Appendix A)
 -  Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

Appendix A: Classifier defined and non CLP determinands

• pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 5/25/2015
Risk Phrases: None.
Hazard Statements: None.

• boron tribromide/trichloride/trifluoride (combined) (CAS Number: 10294-33-4, 10294-34-5, 7637-07-2)

Conversion factor: 13.43
Description/Comments: Combines the hazard statements and the average of the conversion factors for boron tribromide, boron trichloride and boron trifluoride
Data source: N/A
Data source date: 8/6/2015
Risk Phrases: R14 , T+ R26/28 , C R34 , C R35
Hazard Statements: EUH014 , Acute Tox. 2 H330 , Acute Tox. 2 H300 , Skin Corr. 1A H314 , Skin Corr. 1B H314

• chromium(III) oxide (EC Number: 215-160-9, CAS Number: 1308-38-9)

Conversion factor: 1.462
Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 7/17/2015
Risk Phrases: R20 , R22 , R36 , R37 , R38 , R42 , R43 , R50/53 , R60 , R61
Hazard Statements: Acute Tox. 4 H332 , Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Resp. Sens. 1 H334 , Skin Sens. 1 H317 , Repr. 1B H360FD , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• dicopper oxide; copper (I) oxide (EC Number: 215-270-7, CAS Number: 1317-39-1)

CLP index number: 029-002-00-X
Data source: Regulation (EU) 2016/1179 of 19 July 2016 (ATP9)
Additional Risk Phrases: N R50/53 , N R50/53 >= 0.25 %
Additional Hazard Statement(s): None.
Reason for additional Hazards Statement(s)/Risk Phrase(s):
10/10/2016 - N R50/53 risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases
10/10/2016 - N R50/53 >= 0.25 % risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

• TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 5/25/2015
Risk Phrases: R10 , R45 , R46 , R51/53 , R63 , R65
Hazard Statements: Flam. Liq. 3 H226 , Asp. Tox. 1 H304 , STOT RE 2 H373 , Muta. 1B H340 , Carc. 1B H350 , Repr. 2 H361d , Aquatic Chronic 2 H411

• phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 8/6/2015
Risk Phrases: R22 , R36 , R37 , R38 , R40 , R43 , N R50/53
Hazard Statements: Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 2 H351 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Skin Irrit. 2 H315

• anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 7/17/2015
Risk Phrases: R36 , R37 , R38 , R43 , N R50/53
Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 8/21/2015
Risk Phrases: Xn R22 , N R50/53
Hazard Statements: Acute Tox. 4 H302 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 8/21/2015

Risk Phrases: Xi R36/37/38 , N R50/53

Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 8/6/2015

Risk Phrases: R40

Hazard Statements: Carc. 2 H351

• **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 7/23/2015

Risk Phrases: N R50/53

Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

Appendix B: Rationale for selection of metal species

boron {boron tribromide/trichloride/trifluoride (combined)}

Worst case species based on hazard statements

arsenic {arsenic trioxide}

Worst case species based on hazard statements

cadmium {cadmium sulfide}

Worst case species based on hazard statements

chromium in chromium(III) compounds {chromium(III) oxide}

Worst case species based on hazard statements

copper {dicopper oxide; copper (I) oxide}

Most likely common species

nickel {nickel dihydroxide}

Worst case species based on hazard statements

lead {lead chromate}

Worst case species based on hazard statements

selenium {selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex}

Worst case species based on hazard statements

zinc {zinc chromate}

Worst case species based on hazard statements

Appendix C: Version

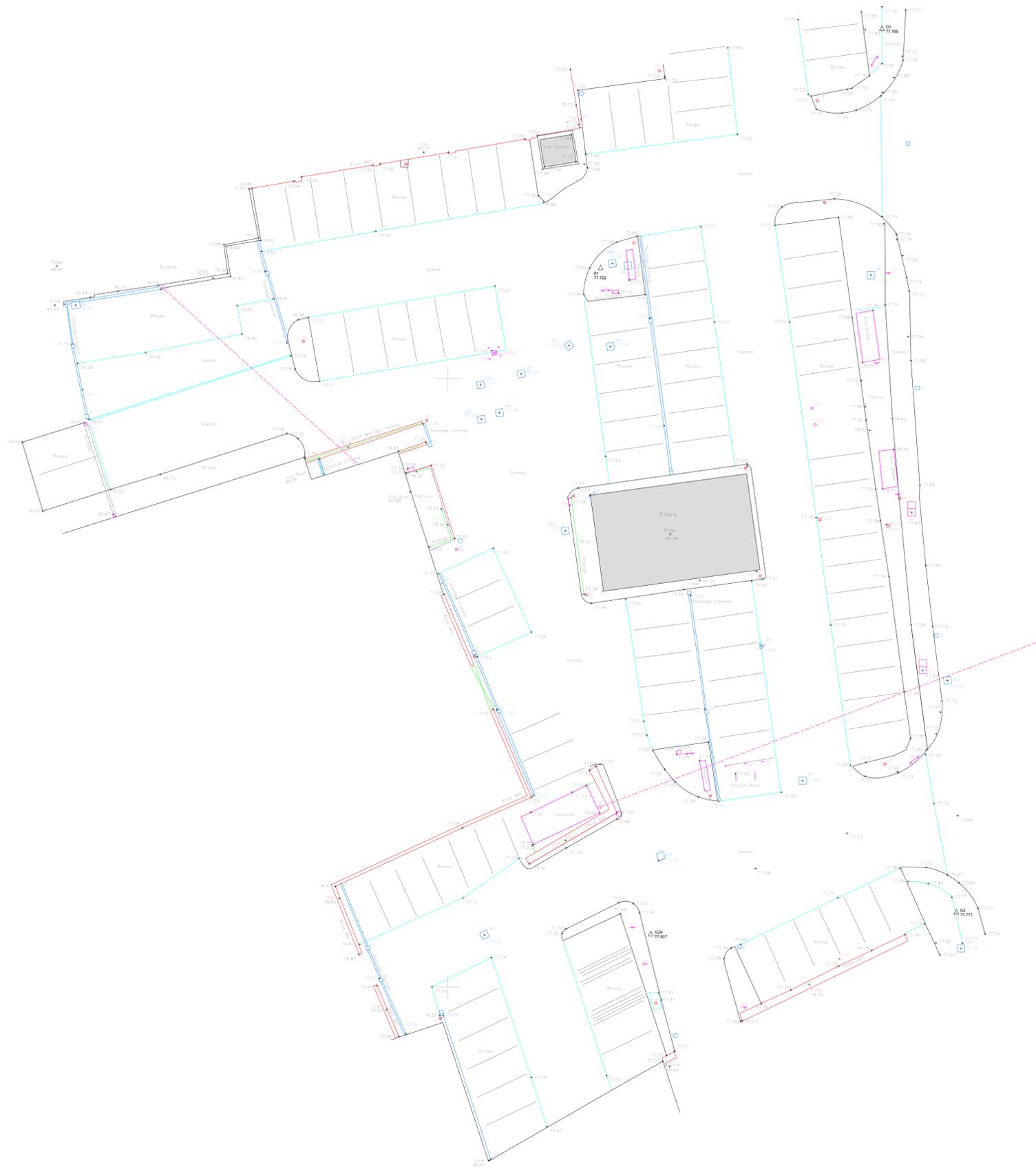
HazWasteOnline Classification Engine: WM3 1st Edition, May 2015

HazWasteOnline Classification Engine Version: 2017.55.3206.6376 (24 Feb 2017)

HazWasteOnline Database: 2017.55.3206.6376 (24 Feb 2017)

This classification utilises the following guidance and legislation:

- WM3 - Waste Classification** - May 2015
- CLP Regulation** - Regulation 1272/2008/EC of 16 December 2008
- 1st ATP** - Regulation 790/2009/EC of 10 August 2009
- 2nd ATP** - Regulation 286/2011/EC of 10 March 2011
- 3rd ATP** - Regulation 618/2012/EU of 10 July 2012
- 4th ATP** - Regulation 487/2013/EU of 8 May 2013
- Correction to 1st ATP** - Regulation 758/2013/EU of 7 August 2013
- 5th ATP** - Regulation 944/2013/EU of 2 October 2013
- 6th ATP** - Regulation 605/2014/EU of 5 June 2014
- WFD Annex III replacement** - Regulation 1357/2014/EU of 18 December 2014
- Revised List of Wastes 2014** - Decision 2014/955/EU of 18 December 2014
- 7th ATP** - Regulation 2015/1221/EU of 24 July 2015
- 8th ATP** - Regulation (EU) 2016/918 of 19 May 2016
- 9th ATP** - Regulation (EU) 2016/1179 of 19 July 2016
- POPs Regulation 2004** - Regulation 850/2004/EC of 29 April 2004
- 1st ATP to POPs Regulation** - Regulation 756/2010/EU of 24 August 2010
- 2nd ATP to POPs Regulation** - Regulation 757/2010/EU of 24 August 2010



319300N

319250N



Abbreviation & Symbol Key.

General Abbreviations	Utility	Assumed Route
BO Bolland	AR	Assumed Route
BB Belisha Beacon	C	Cabinets
BL Bed Level	D	Duct
BT British Telecom Cover	EOT	End of Trace
BM Bench Mark	NL	Not Located
CL Cover Level	PEMR	Electricity Meter
CR Cable Riser	PEPL	Electricity Pole
CT Cable Trough	FV	Flag Valve
DC Drainage Channel	PGMR	Gas Meter
DK Drop Kerb	PIPS	Isolation Point
DP Down Pipe	FLGT	Lights
ELEC Electricity Cover	SV	Stop Valves
EP Electricity Pole	R	3rd Rail
FFH Fire Hydrant	SP	Stand Pipe
FFL Finished Floor Level	SW	Storm Water
G Gully	TOP	Top of Pipe
GV Gas Valve	TFR	Taken from Records
IC Inspection Cover	UTL	Unable to Lift
IL Invert Level	UTS	Unable to Survey
LB Letter Box	UTT	Unable to Trace
LP Lamp Post	VA	Valve
MB Multi Bole	VP	Vent Pipe
MH Man Hole	WL	Water Level
Mk Marker Post	WM	Water Meter
MS Mile Stone	WP	Waste Pipe
NP Name Plate	Y	Pyilons
NEI No Further Information		
OHLS Over Head Line Supports		
OSBM Ordnance Survey BM		
PB Post Box		
PCTR Contoller		
PILL Invert Level		
PO Post		
PRGS Grass, rough		
PSCB Scrub		
PSSA Survey Station		
PBMK Bench Mark		
RE Rodding Eye		
RS Sign		
ST Stop Tap		
STM Slump		
TH Trial Hole		
TFP Tarmac Footpath		
TL Traffic/Signal Light		

Fence and Walls
CW Bridge Walls
FE Fence
FG Fence Gate
FS Sill
PMKR Boundary Marker
TOW Top of Wall

Other Symbols
Banking
Benchmark
Fence
Hedge
PGM
Survey Station

General
 All details are subject to RICS 1:500 Survey scale accuracies.
 Grid crosses should be checked for plotting paper distortions.
 Details or services hidden or obscured by vegetation, debris or vehicles at survey dates may be omitted. Hedge & Vegetation details are outline

Control & Datum Information
 Station G1 Co-ordinates are OSGB36 using OSTN02. All other stations are relative to this in plane projection and Grid North orientation from G2 (i.e one point localisation).
 Levels: Orthometric heights derived using GPS & OSGM02 geoid model.

Rev	Description	By	Date

Surv	Drawn	Date	Chkd	Date	Appr'd	Date
JH	JH	16/02/17	GIG	17/02/17	SM	17/02/17

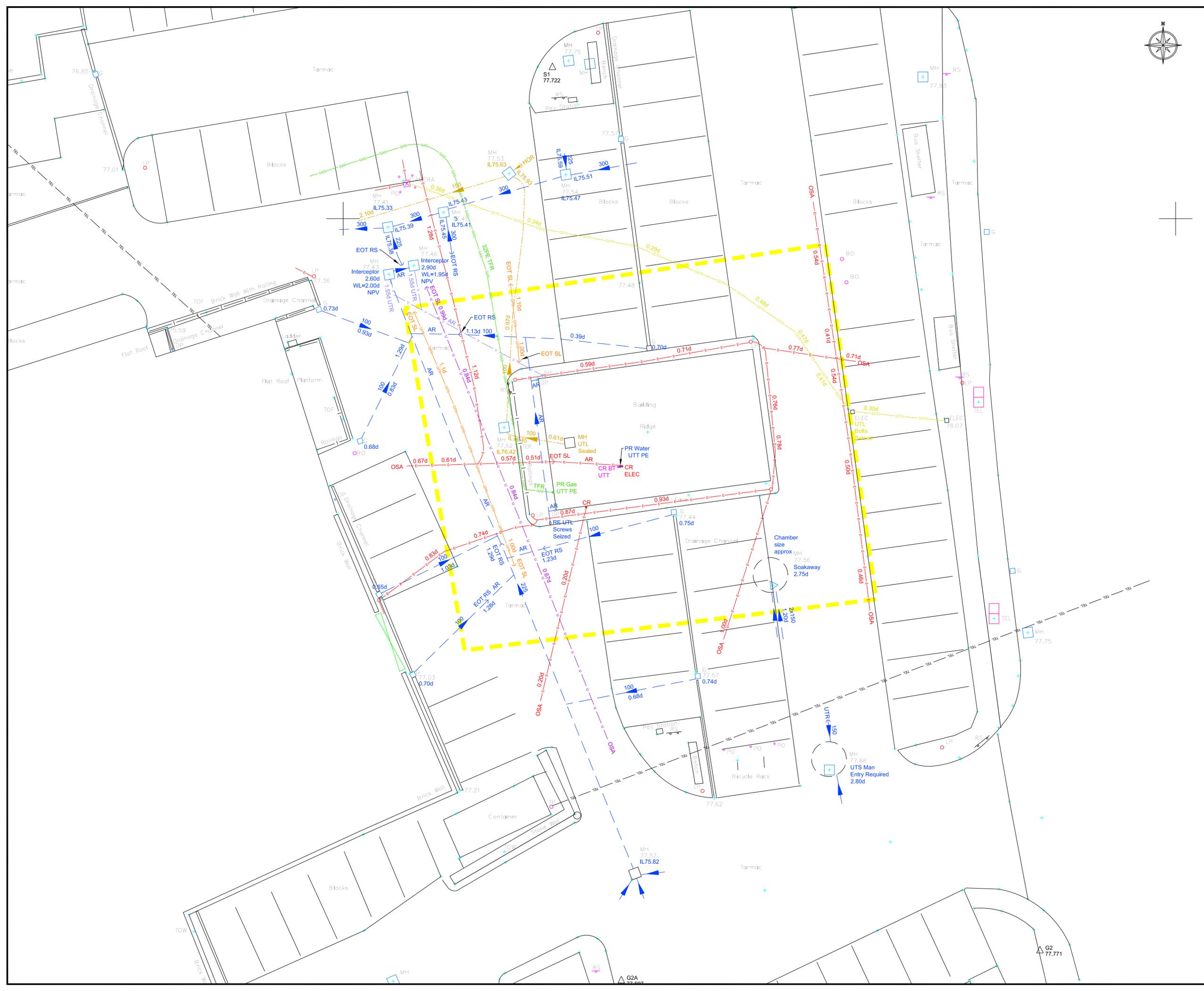
Client.
 Melton Borough Council
 Parkside
 Station Approach
 Burton Street
 Melton Mowbray
 Leicestershire

Title.
 Topographical Survey
 St Marys Way Car Park
 St Marys Way
 Melton Mowbray
 LE13 1YE

gleeds
 Building Surveying Ltd
 Land, Engineering, Hydrographic and Building Surveying
 Town Centre House
 Merrion Centre
 Leeds
 LS2 8ND
 Tel: 0113 2366900
 Fax: 0113 2366939
 Email: leeds@gleeds.co.uk

Dwg No. **NTBS2617_SMW_T01**
 Sheet No. **1 of 1**

Scale	1:200	Rev.	0
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LEGEND	
	Foul Drainage
	Surface Drainage
	Combined Drainage
	Electricity
	Electricity High Voltage
	Electricity Low Voltage
	Gas
	Ground Penetrating Radar
	Water
	Cable Television
	Close Circuit Television
	Communication
	British Telecom
	Oil Pipe
	Pipe
	Offset Fill
	Compressed Air
	Fuel Line
	Gauge Line
	Fibre Optics
	Unknown
	Vapour Recovery
	Ventilation
	Fence
	Empty Duct
	Fire Alarm
	Traffic Lights
	Survey Boundary
	Borehole
	Window Sample
	Soil Vapour Sample
	Trial Pit
	End Of Trace
	Excavated Area
	GPR Anomaly Area
	Unable to Survey Area

ABBREVIATIONS			
AR	ASSUMED ROUTE	OH	OVERHEAD
BD	BACKDROP	OSA	OUTSIDE SURVEY AREA
BF	BACK FILLED	PE	POLYETHYLENE
BH	BOREHOLE	PR	PIPE RISER
BHP	BOREHOLE PROVISIONAL	PVC	POLYVINYL CHLORIDE
BTIC	BRITISH TELECOM CHAMBER	RE	RODDING EYE
CI	CAST IRON	RS	ROD STOPPED
CL	COVER LEVEL	RWP	RAINWATER PIPE
CP	CATCH PIT	SV	STOP VALVE
CR	CABLE RISER	SVP	SOIL VENT PIPE
DP	DOWN PIPE	SVS	SOIL VAPOUR SAMPLE
EP	ELECTRICITY POLE	T	TANK
EOT	END OF TRACE	TFR	TAKEN FROM RECORDS
FE	FENCE EARTH POINT	TP	TELEGRAPH POLE
FH	FIRE HYDRANT	UST	UNDERGROUND STORAGE TANK
FLD	FLOODED	UTL	UNABLE TO LIFT
G	GULLY	UTR	UNABLE TO ROD
GPR	GROUND PENETRATING RADAR	UTS	UNABLE TO SURVEY
GV	GAS VALVE	UTT	UNABLE TO TRACE
IC	INSPECTION CHAMBER	VP	VENT PIPE
IL	INVERT LEVEL	VR	VAPOUR RECOVERY
INT	INTERCEPTOR	WM	WATER METER
LP	LAMP POST	WO	WASH OUT VALVE
MH	MANHOLE	WM	WATER METER
NPV	NO PIPES VISIBLE	WS	WATER RISER
ND	NO DEPTH (Unable to acquire depth)	WR	WATER RISER
		WS	WINDOW SAMPLE

GENERAL NOTES:
 Electromagnetic and GPR methods used to locate services.
 Base plan provided by HSP.
 Unable to survey parts of site due to parked vehicles.
 It's recommended that statutory service records are consulted in conjunction with this survey. No records provided by HSP prior to site visit.
 Unable to trace gas, water and BT connections to building. Advise reviewing statutory records or proving their location with trial holes.
 Underground services shown on this drawing are illustrated by an individual service line, this does not necessarily represent the number of cables or ducts.
 Services shown outside the survey boundary are for information only and may not be complete. If information is required outside our survey boundary, please contact an RP Drilling Project Manager.

Electromagnetic and GPR Survey Disclaimer
 Electromagnetic and Ground Penetrating Radar techniques have been used to locate/trace underground utilities within the designated survey area. RP Drilling Ltd has made every endeavour to ensure that the information contained within this drawing is accurate and of the highest quality.
 The completeness of any underground survey cannot be 100% guaranteed. Additional services, structures or other below ground observations not indicated on this drawing may be present on site, meaning the results from these types of survey are not infallible.
 Electromagnetic techniques can only locate those services that generate an electromagnetic field, or which an electromagnetic field can be induced by either directly clamping onto a service or the threading/bonding. For example an electromagnetic survey would not locate plastic gas pipes, plastic water pipes and some communication cables etc. An electric current will flow along the path of least resistance. This means that when a current is induced into a feature it will jump to adjacent features if they offer a better conducting pathway. It is therefore possible that features that are detected by connecting to one type of apparatus may not in fact be that type of utility. Therefore the identification of apparatus cannot be assumed to be totally accurate and cannot guarantee to reveal the exact routes of all buried services or to detect their presence.
 GPR does NOT classify buried services, but can indicate the presence of voids, disturbed ground, trenches etc. The effectiveness of GPR can be severely limited by ground conditions and therefore it's results cannot be guaranteed.
 Depths of underground features are generally within +/- 20% accurate. The depths obtained are measured from the centre of the conductor and do not necessarily indicate the depth to a duct or pipe. If the location or depth of a service/feature is of particular importance to a project, it is strongly advised that trial excavations should be undertaken (at RP Drilling's) to confirm survey results.
 Any information taken from recent plans, or statutory utility providers will be used as a guide only and is not guaranteed. If our surveys are unable to trace a 'known' service it will be marked on the drawing as TFR (Taken from records). RP Drilling Ltd is not liable for any inaccuracies relating to that service as historic record information is often incomplete and cannot be relied upon.
 RP Drilling Ltd is not liable for any topographical surveys that have not been undertaken by us. Any inaccuracies relating to topographical plans/development plans/Drainage Survey data that we have no control over or the liability of the client. Based on equipment limitations RP Drilling cannot be held responsible for any inaccuracies beyond those that could be reasonably expected by a competent company and calibrated equipment.



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Client

 Site Location
**St Mary's Way
 Melton Mowbray**

Surveyed by CA/WR	Drawn by TT	Approved by CA
Drawing No. 0317-HSP-007		Revision -
Scale 1:100@ A1	Date 01/03/2017	Sheet No. 1 of 1



Abbreviation & Symbol Key

General Abbreviations	Utility	Assumed Route
BO Bollard	AR	Assumed Route
BB Bellisha Beacon	C	Cabinets
BL Bed Level	D	Duct
BT British Telecom Cover	EOT	End of Trace
BM Bench Mark	NL	Not Located
CL Cover Level	PEMR	Electricity Meter
CR Cable Riser	PEPL	Electricity Pole
CT Cable Trough	FV	Flag Valve
DC Drainage Channel	PGMR	Gas Meter
DK Drop Kerb	PIPS	Isolation Point
DP Down Pipe	PLGT	Lights
ELEC Electricity Cover	SV	Stop Valves
EP Electricity Pole	R	3rd Rail
FH Fire Hydrant	SP	Stand Pipe
FLL Finished Floor Level	SW	Storm Water
G Gully	TOP	Top of Pipe
GV Gas Valve	TFR	Taken from Records
IC Inspection Cover	UTL	Unable to Lift
IL Invert Level	UTS	Unable to Survey
LB Letter Box	UTT	Unable to Trace
LP Lamp Post	VA	Valve
MB Multi Boile	VP	Vent Pipe
MH Man Hole	WL	Water Level
Mk Marker Post	WM	Water Meter
MS Mile Stone	WP	Waste Pipe
NP Name Plate	Y	Fylons
NFI No Further Information		
OHLS Over Head Line Supports		
OSBM Ordnance Survey BM		
PB Post Box		
PCTR Conifer		
PILL Invert Level		
PO Post		
PRGS Grass, rough		
PSCB Scrub		
PSSA Survey Station		
PBMK Bench Mark		
RE Rodding Eye		
RS Sign		
ST Stop Tap		
STM Stump		
TH Trial Hole		
TFP Tarmac Footpath		
TL Traffic/Signal Light		

Fence and Walls
 CW Bridge Walls
 FE Fence
 FG Fence Gate
 FS Sill
 PMKR Boundary Marker
 TOW Top of Wall

Banking
 Benchmark
 Fence
 Hedge
 PGM
 Survey Station

General
 All details are subject to RICS 1:500 Survey scale accuracies. Grid crosses should be checked for plotting paper distortions. Details or services hidden or obscured by vegetation, debris or vehicles at survey dates may be omitted. Hedge & Vegetation details are outline

Control & Datum Information
 Station G4 Co-ordinates are OSGB36 using OSTM02. All other stations are relative to this in plane projection and Grid North orientation from G3 (i.e one point localisation). Levels: Orthometric heights derived using GPS & OSGM02 geoid model.

Rev	Description	By	Date

Surv	Drawn	Date	Chkd	Date	Appr'd	Date
GIG	GIG	16/02/17	GIG	17/02/17	SM	17/02/17

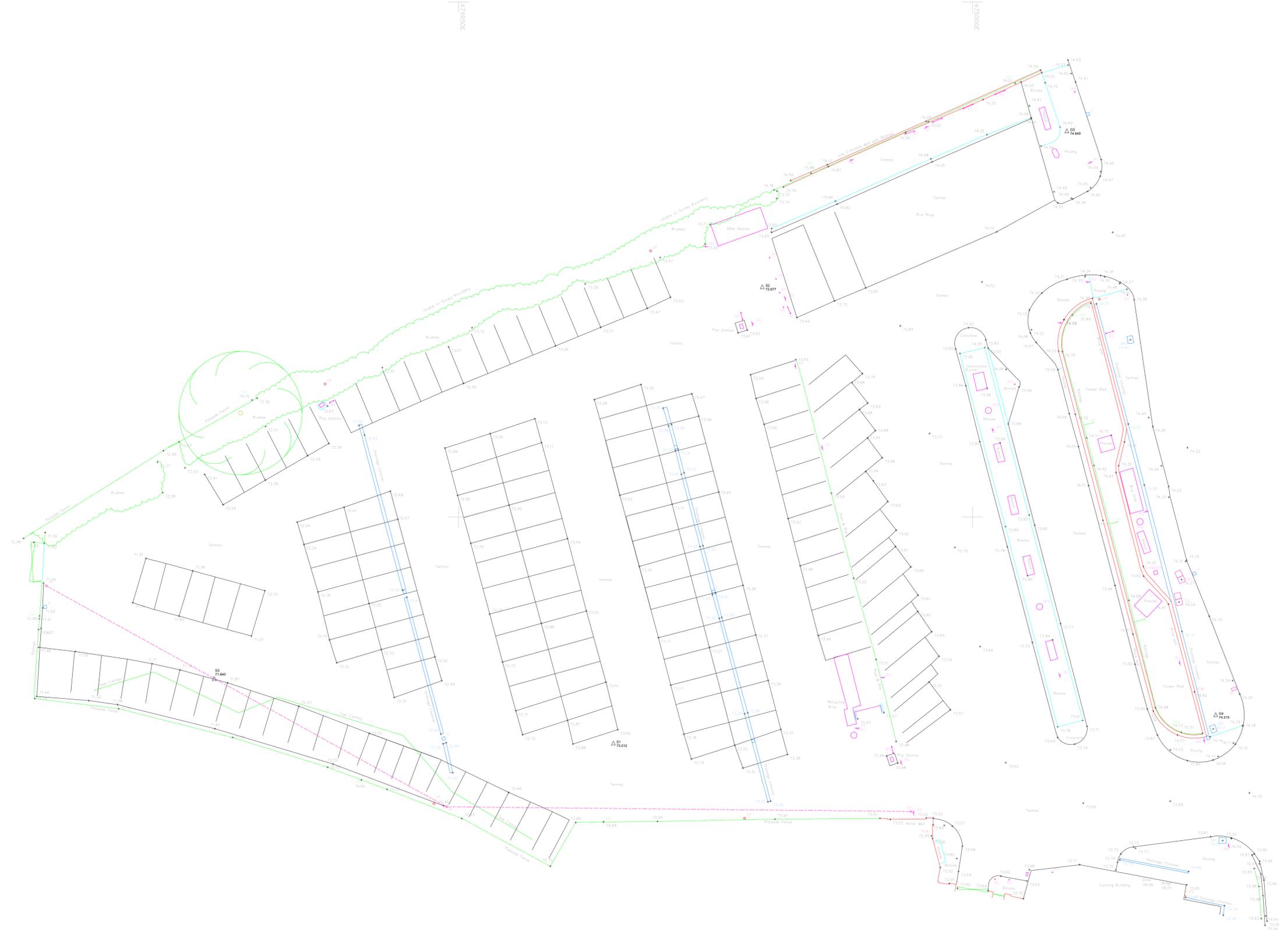
Client:
 Melton Borough Council
 Parkside
 Station Approach
 Burton Street
 Melton Mowbray

Title:
 Topographical Survey
 Wilton Road Car Park
 Wilton Road
 Melton Mowbray

gleeds
 Building Surveying Ltd
 Land, Engineering, Hydrographic and Building Surveying
 Town Centre House
 Merrion Centre
 Leeds
 LS2 8ND
 Tel: 0113 2366900
 Fax: 0113 2366939
 Email: leeds@gleeds.co.uk

Dwg No. **NTBS2617_WR_T01**
 Sheet No. **1 of 1**

Scale	1:200	Rev.	0
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474900E

474900E

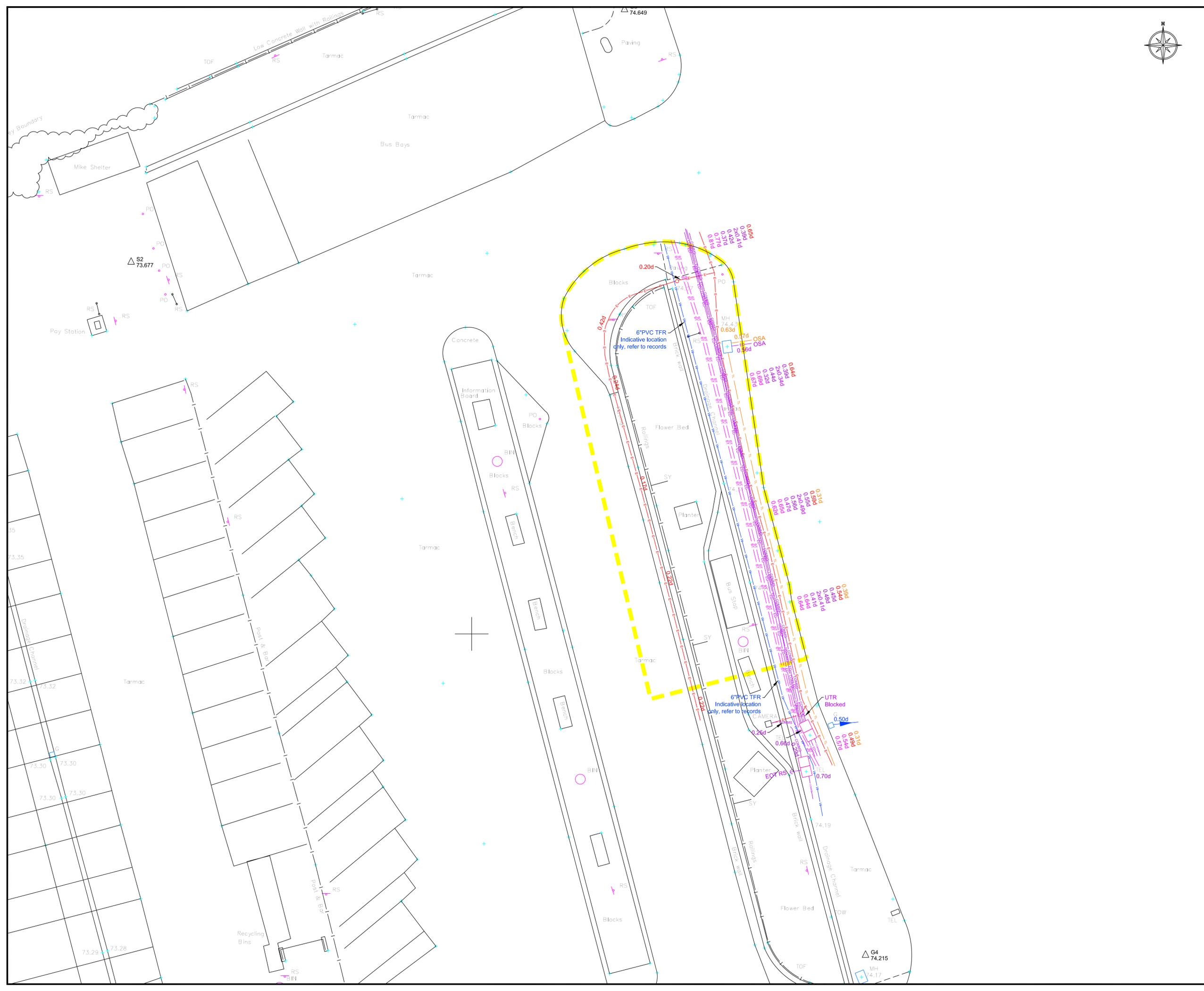
475000E

319250N

474900E

475000E

474900E
319200N



LEGEND

	Foul Drainage
	Surface Drainage
	Combined Drainage
	Electricity
	Electricity High Voltage
	Electricity Low Voltage
	Gas
	Ground Penetrating Radar
	Water
	Cable Television
	Close Circuit Television
	Communication
	British Telecom
	Oil Pipe
	Pipe
	Offset Fill
	Compressed Air
	Fuel Line
	Gauge Line
	Fibre Optics
	Unknown
	Vapour Recovery
	Ventilation
	Fence
	Empty Duct
	Fire Alarm
	Traffic Lights
	Survey Boundary
	Borehole
	Window Sample
	Soil Vapour Sample
	Trial Pit
	End Of Trace
	Excavated Area
	GPR Anomaly Area
	Unable to Survey Area

ABBREVIATIONS

AR	ASSUMED ROUTE	OH	OVERHEAD
BD	BACKDROP	OSA	OUTSIDE SURVEY AREA
BF	BACK FILLED	PE	POLYETHALINE
BH	BOREHOLE	PR	PIPE RISER
BHP	BOREHOLE PROVISIONAL	PVC	POLYVINYL CHLORIDE
BTIC	BRITISH TELECOM CHAMBER	RE	RODDING EYE
CI	CAST IRON	RS	ROD STOPPED
CL	COVER LEVEL	RWP	RAINWATER PIPE
CP	CATCH PIT	SV	STOP VALVE
CR	CABLE RISER	SVP	SOIL VENT PIPE
DP	DOWN PIPE	SVS	SOIL VAPOUR SAMPLE
EP	ELECTRICITY POLE	T	TANK
EOT	END OF TRACE	TFR	TAKEN FROM RECORDS
FE	FENCE EARTH POINT	TP	TELEGRAPH POLE
FH	FIRE HYDRANT	UST	UNDERGROUND STORAGE TANK
FLD	FLOODED	UTL	UNABLE TO LIFT
G	GULLY	UTR	UNABLE TO ROD
GPR	GROUND PENETRATING RADAR	UTS	UNABLE TO SURVEY
GV	GAS VALVE	UTT	UNABLE TO TRACE
IC	INSPECTION CHAMBER	VP	VENT PIPE
IL	INVERT LEVEL	VR	VAPOUR RECOVERY
INT	INTERCEPTOR	WL	WATER LEVEL
LP	LAMP POST	WM	WATER METER
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NPV	NO PIPES VISIBLE	WR	WATER RISER
ND	NO DEPTH (Unable to acquire depth)	WS	WINDOW SAMPLE

GENERAL NOTES:
 Electromagnetic and GPR methods used to locate services.
 Base plan provided by HSP.
 It's recommended that statutory service records are consulted in conjunction with this survey. Electric, water and sewer records provided prior to site visit.
 Severn Trent Water UTT TFR. Indicative location only, poor quality record provided.
 Underground services shown on this drawing are illustrated by an individual service line, this does not necessarily represent the number of cables or ducts.
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 Utility Mapping Division

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Client
hsp consulting

Site Location
**Wilton Road Car Park
 Melton Mowbray
 LE13 0UJ**

Surveyed by CA/WR	Drawn by TT	Approved by CA
Drawing No. 0317-HSP-006	Revision -	
Scale 1:100@A1	Date 01/03/17	Sheet No. 1 of 1