



**METHOD STATEMENT AND RISK ASSESSMENT
SOAKAGE TESTING IN SHALLOW TRIAL PITS AND BOREHOLE**

**LAND TO THE NORTH WEST OF THE JUNCTION BETWEEN
PIXHAM FERRY LANE AND OLD ROAD SOUTH, KEMPSEY, WORCESTER WR5**

CLIENT: KEMPSEY PARISH COUNCIL

CONSULTANT: STRI GROUP LTD

SUMMARY OF DETAILS

Site Name Land to the north west of the junction between
Pixham Ferry Lane and Old Road South, Kempsey, Worcester WR5

G7 Geotech Job No 1223/KOG

Start date To be confirmed

Completion date To be confirmed
[fieldwork]

Company Name G7 Geotech Ltd

Address 23 Romilly Road
Cardiff
CF5 1FH

Telephone
email

RELEVANT CONTACT DETAILS					
Position	Company	Contact	Tel	Mob	e-mail
Consultant	STRI Group			-	
Ground Investigation Specialist	G7 Geotech Ltd				
Client	Kempsey Parish Council		n/a	n/a	
Pipeline owner	Exolum		n/a		

OUTLINE SCOPE OF PROPOSED GROUND INVESTIGATION WORKS

It is proposed to create a number of sports pitches within the site which comprises an undeveloped field.

A drawing has been provided which indicates an Exolum (formerly CLH – PS) Oil Pipeline crossing the site. As agreed, we will meet with the pipeline operator on-site to confirm the location of the pipeline and ensure that our work does not affect this utility. Our own specialist service scanning and ground penetrating radar team will check buried services, and in consultation with the oil pipeline engineer we will undertake hand digging of trial pits to locate the oil pipeline. The route of the pipeline will be marked by short timber pegs at the locations of the inspection pits when these have been backfilled. We would provide trial pit records with dimensions of location and depth of the oil pipeline. We have requested that you can provide all the available public utilities records prior to our work.

We understand that it will be necessary to consult Exolum regarding the proposed fieldwork, for which we provide this Method Statement and Risk Assessment for approval.

On a subsequent day of fieldwork, we would undertake three separate shallow hand excavated trial pits and a small diameter borehole (by tracked mini-rig) for the soakage tests. The aim will be to complete the soakage tests in a further one-day exercise.

A plan showing provisional locations for the exploratory works is appended

The scope of the investigation is as follows:

- Utility location and avoidance exercise
- Excavation of hand dug trial inspection pits to determine location and depth of oil pipeline
- Excavation of hand dug trial pits to enable soakage/infiltration testing
- Laboratory testing [remote from site] if required
- Factual and interpretative reporting

The site work will be supervised by G7 Geotech Ltd.

PROJECT HEALTH AND SAFETY PLAN

The health and safety targets for the investigation are as follows:

- maintain a healthy and safe working environment for everyone who may be affected by the work activities being carried out
- to complete the work accident free
- to minimise unauthorised access to the working areas
- to cause no environmental damage
- to minimise disruption to other stakeholders including the oil pipeline operator

Welfare

We will bring water containers and appropriate equipment to site for hand-washing. Smoking will only be permitted in an approved designated area.

First aid/emergency

One of our site personnel will be first aid trained to a minimum 'first aid at work' standard. A First aid kit will be carried within the crew's vehicle. In the event serious of injury, the emergency services will be contacted. All site works shall cease and be made safe where necessary and possible. Operatives shall meet in a safe area designated by the client/main contractor. Any accident that occurs on site shall be reported by the site operatives to the Site Management.

Details of nearest Accident and Emergency Unit are as follows:

Worcestershire Royal Hospital, Charles Hastings Way, Worcester WR5 1DD Tel 01905 763333

Underground services

Available plans of underground services will be consulted. The pipeline inspection pits will only be carried out in agreement with Exolum. The soakage test locations (pits and borehole) will be set-out to ensure that they are clear of the services. A specialist underground services survey team will be deployed in advance of any intrusive work to locate the oil pipeline and provide clearance at the agreed exploratory locations.

Ground contamination

Appropriate PPE will be worn by all site personnel. This assessment will be continually reviewed as the work proceeds with the method of work revised should ground conditions dictate. All staff will be instructed that should they suspect or encounter any unexpected contamination, work should cease until such times as a revised safe method of working has been established.

The following general hygiene rules will be adhered to:

- ☐ always thoroughly wash hands, forearms and face on finishing work and before any break where food/drink may be handled
- ☐ always remove any dirty work clothing before eating
- ☐ all cuts/abrasions must be kept clean and covered with a waterproof plaster. Medical advice should be sought for more serious injuries
- ☐ always wear appropriate PPE

METHOD STATEMENT – HAND DUG TRIAL PITS

1. Before commencing work on site, all site supervisors will be provided with detailed instructions of the location, depth and purpose of all excavations to ensure that work is carried out in accordance with the requirements of the Client and in order to provide G7 Geotech with the necessary information on ground conditions and depths of any utilities met.
2. Before commencing excavations at any location, the area must be checked for all services. Where services are in close proximity these should be accurately located and care should be exercised as the excavation proceeds. Client's drawings, visual inspection, the use of cable detection tools and local knowledge are all useful indicators for underground services.
3. Where a site-specific risk assessment and method statement is necessary, the methods and risk management requirements should be communicated to the site operatives prior to work commencing.
4. When operating on a site controlled by a Main Contractor, site staff must observe all relevant site guidance and H&S induction briefings.
5. All site staff are to wear general standard safety clothing including hard hats, protective footwear and high visibility clothing, where appropriate. On contaminated sites additional protection including rubber gloves and dust masks may be necessary.
6. The trial pits will be excavated by hand tools. Care must be exercised around the excavation as the sides may be liable to collapse in certain ground conditions. Health and Safety guidance is that the excavation must be assessed as stable or safely supported (if necessary) before entry. We advise our staff that safe support must be provided before man entry to excavations deeper than about 1.2m.
7. Small and bulk disturbed and undisturbed soil samples and groundwater samples will be recovered, as appropriate and in situ hand penetrometer and/or hand vane tests will be carried out in cohesive soils to provide an estimate of undrained shear strength. Where necessary a wooden peg may be hammered into granular soils to provide an estimate of relative compactness.
8. Where groundwater is encountered, the trial pit will be left open for a period of time to allow an assessment of the groundwater conditions.
9. As the trial pits are backfilled with arisings, surplus spoil will be mounded over the trial pit to be re-levelled, possibly by others, after a period of time to allow settlement of the backfill.

RISK ASSESSMENT – HAND DUG TRIAL PITS				
Potential Hazard	Risk	Management	Attention to Residual Risks	Risk Level following Risk Management
Flying debris and dust during breaking out concrete	All site supervisory staff to carry current CSCS cards.	No concrete hardstanding expected.	If required site operatives to wear protective glasses and dust masks	Low
Unstable Ground		Provide temporary support and ladders in excavations assessed as potentially unstable	Care to be exercised in entering and leaving excavation	Low
Air compressors		Relevant site operatives to be trained in use of compressors. Site operatives to wear rubber gloves/overalls/dust masks where appropriate	General public to be kept away	Low
Contaminated Ground			Normal hygiene precautions	Low
General Public near to excavation	All site operatives to be trained in the use of hand tools, including jack hammers and cutting saws.	No public allowed	Provide protective barriers and signs around excavation if required	Low
Excavations left open overnight		No excavations to be left open overnight.	If required provide boards, protective barriers and signs to excavations Boards to be suitably held down by heavy objects	Low
Falls		Tripping hazards to be removed from around excavation	Care to be exercised when working around excavation	Low

METHOD STATEMENT – WINDOW SAMPLING / DYNAMIC PROBING

1. Before commencing work on site, the G7 Geotech project engineer will provide instructions to the driller about the location, depth and purpose of all window sample boreholes to ensure that work is carried out in accordance with the requirements of the Client and in order to provide G7 Geotech with the necessary information on ground conditions.
2. Where a site-specific risk assessment and method statement is necessary, the methods and risk management requirements should be communicated to the site operatives prior to work commencing.
3. When operating on a site controlled by a Main Contractor, site staff must observe all relevant site guidance and H&S induction briefings.
4. All site staff are to wear general standard safety clothing including hard hats and steel toe-capped boots. High visibility clothing should be worn where appropriate. On contaminated sites additional protection including rubber gloves and dust masks may be necessary.
5. Before commencing boreholes at any location, the area must be checked for all underground services. A specialist scanning company will be employed. Client's drawings, visual inspection, the use of cable detection tools and local knowledge are all useful indicators for underground services. A small hand-dug inspection pit may be necessary as a final check. Where electricity cables/gas mains run in close proximity it may be necessary to expose the nearby cable/pipe prior to work commencing.
6. Window sample boreholes are constructed by driving in steel sample tubes in which long slots have been cut to enable the soil to be examined, tested or sampled. The tubes are either 1m or 2m in length. The borehole commences using a large diameter tube, 70mm or 80mm, with each succeeding tube reducing usually by 10mm in diameter to assist the extraction of the tube from the ground. Thus, it is theoretically possible to obtain a total continuous sample of the soil for examination or testing. The method is primarily suited to clay soils and can also achieve reasonable penetration into many granular soils. Soil recovery beneath the water table in granular soils can however be reduced. The open slot in the sample tube allows hand shear vane and pocket penetrometer tests to be carried out. Samples can also be taken where necessary for laboratory testing, including moisture content, index property tests and contamination analyses.
7. On completion of the drilling and sampling an observation pipe may be installed within the borehole, if necessary, otherwise the borehole is backfilled with arisings.
8. Where dynamic probing is required, this technique involves driving a steel rod with an over-size point into the ground. A regular hammer blow is used to advance the probe and the blow count is recorded for every 100mm penetration. The results are presented as a plot of blow count (N_{100}) against depth.

RISK ASSESSMENT – WINDOW SAMPLING				
Potential Hazard	Risk Management		Attention to Residual Risks	Risk Level following Risk Management
Flying debris and dust during breaking out concrete	All site supervisory staff to carry current CSCS cards. All site operatives to be trained/experienced in the use of equipment. All site operatives to comply with the current Manual Handling Regulations. All site operatives to wear steel toe capped footwear and ear protection.	No hard surfacing present	Protective barriers may be required in public areas	Low
Contaminated Ground		Site operatives to wear rubber gloves/overalls and dust masks, where appropriate	Normal hygiene precautions	Low
Moving and Lifting Equipment		All site operatives to comply with the current Manual Handling Regulations	General public to be kept away from work area by barriers, if necessary	Low
Noise		Wear ear protection	Noise is not generally an issue with the public	Low
Equipment malfunction		Routine inspection and maintenance	Supervisory staff to keep reasonable distance	Low
Trips/Falls		Tripping hazards to be minimised	Care to be exercised in working area	Low

212391NSS2520 Geotech trial hole(s) (overseen by Exolum) to record line and level of Exolum NSS pipeline.

EXOLUM pipeline technician will be contacted to arrange required oversight at least 10 working days prior to duct installation works. No works will take place within 3m of the EXOLUM pipeline without agreement from EXOLUM (Approximate pipeline location indicated in approximate location plans).

Use of mechanical excavator fitted with toothless bucket will be at discretion of the EXOLUM pipeline technician.

If encountered concrete pipeline protection and or cathodic protection cables must remain unaltered by the proposed works.

Using COVID 19 social distancing guidance EXOLUM pipeline Technician will mark out pipeline location using CAT & Genny.

Also, using COVID 19 social distancing guidance Cat Surveys site team will carefully excavate 200/300 mm layer, and carefully probe with blunt wooden or plastic probe, then will move at least 2m from the excavation.

..... will re check excavation using CAT & Genny.

Above steps will continue until within 500mm of indicated pipe location, whereupon site team will carefully expose the pipeline protection or crown of the EXOLUM pipeline and move back from excavation by at least 2m to enable EXOLUM check. EXOLUM pipeline assumed to have greater than 1m of cover with existing pipeline protection under carriageway.

Backfill methods and materials will be agreed on site with EXOLUM.

No plant or machinery will be required to cross the unprotected EXOLUM pipelines during the works.

Relevant sections from EXOLUM standard requirements booklet:

4.2 General Health and Safety

There is a general duty placed on any Third Party, his Agent's and Contractors, under the requirements of the HSW Act and subsidiary legislation (E.g. PSR, CDM), carrying out any work that may affect a EXOLUM Asset to design and execute such work so as not to impact on the integrity of the Pipeline(s) and give rise to any avoidable harm to any people or the environment.

4.3 Insurances

Damage to a EXOLUM asset could result in loss of life and/or major impacts on the environment which could lead to criminal and civil prosecution and claims up to and in excess of £5m per event. Those carrying out work affecting a EXOLUM asset shall ensure sufficient insurance to cover such eventualities. Proof of insurance forms part of the requirement for the Works Consent Form as set out in Section 4.6(8).

4.4 Work Outside the Easement Strip

Any works outside the Easement Strip including but not limited to:

- Piling or 3D seismic survey work within 30 metres,;
- Use of explosives within 400 metres,; and
- Erection of wind turbines constructed with a minimum standoff distance from the pipeline of 1.5 x hub height plus 3 metres, and,;
- Installation of HV cables/apparatus (11kv and greater), within 50m

must not be carried out without prior assessment by the Operator.

4.5 Supervision of Work

In order to ensure the safety and integrity of EXOLUM assets all works within the Easement Strip and certain works within the Proximity Strip must be agreed and overseen by the O&M team Pipeline Technician. Details of such oversight, including any onsite supervision necessary to protect the pipeline, shall be detailed in the O&M Contractor's Easement Access Agreement

5.1 Requirement

To ensure compliance with Regulation 15 and 16 of the Pipeline Safety Regulations it is critical that all works within the Easement Strip be agreed and overseen by the Operator's O&M Pipeline Technician

5.2 Cost of Oversight

The Operator shall seek to charge for the cost of any works oversight, including any technical or engineering services, necessary to accommodate any Third-Party work in the Easement Strip. Normally the first 3 days (7.5 hours days) is free and thereafter a charge shall be made for assisting in the delivery of the Third Party's work. Details of charges can be found in Appendix 7.

5.3 Notice for Attendance at Site

To allow for reasonable resource planning to take place the minimum notice periods for attendance on site by the O&M Pipeline Technician for supervision of work shall be as follows:

- 3 working days for initial site visit, pipeline demarcation
- 10 working days for any subsequent planned supervision, and
- 5 working days for un notified and/or unplanned work.

NOTE: In the event of exceptional or emergency situations, i.e. damage to the pipeline, attendance will be organised within 4 hours. Note this would be to help make safe not to oversee any work around the EXOLUM pipeline

6.2 Utility Crossings

Utility crossings shall be installed in accordance with the general requirements provided in Appendix 4. To ensure safe access to the pipeline is maintained the utility will pass below the pipeline and where multiple crossings are required they will be routed at one common location. These crossings shall be as close to 90 degrees perpendicular to the pipeline to ensure minimum impact to and safe access to the pipeline. Utilities or other foreign services shall not be installed parallel to the pipeline within the Easement Strip.

If due to agreed engineering difficulties a utility has to pass above the pipeline these items must be made as "movable" as possible to allow for future access to the EXOLUM pipeline. Any future removal and reinstatement costs associated with the maintenance of the pipeline shall be in accordance with the NRSWA or signed Works Consent Form

6.9 Locating the Pipeline

The Pipeline Technician will attend site to mark out the approximate route of the pipeline using Cable Avoidance Tools (CAT). CAT scans only give approximate alignment and depth information and therefore it may be necessary to excavate trial holes, under oversight from the Pipeline Technician, to locate and identify the true line and depth of the line for detailed planning and design purpose. All costs associated with pipeline Operator supervised trial holes will be to the account of the Third Party. The Third Party will need to have site specific RAMS, drawings, and contacts agreed by EXOLUM prior to overseen trial hole works. The Third Party will also provide proof of insurance.

6.10 Excavations in the Easement Strip

As set out in Section 5 all excavations and associated work affecting the pipeline in the Easement Strip shall be overseen by the Pipeline Technician. For the avoidance of doubt such oversight is provided only to protect the safety of the pipeline and the Third Party and its Contractors shall employ their own Safe Systems of Work (SSoW) necessary to ensure the safety of those undertaking and/or affected by the work.

NOTE: Mechanical excavation is one of the biggest and most common risks of damage to buried services. As such it is expected that the planning and undertaking of any excavation within the Easement Strip shall be carried out in strict accordance with the HSE's Guidance Document HSG 47 - Avoiding Danger from Underground Services. A copy of this document can be found on the UK HSE's web site.

APPENDIX 6 – Works and RAMs Guidance Note

The following points shall be observed when planning work and preparing site specific work RAMs:

- A Risk Assessment will be provided that highlights the risks that the pipeline will be exposed to due to the proposed works, it will also show what control measures will be used to mitigate against those risks.
- A Method Statement for the works will be provided that describes the step-by-step sequence of how the works will be carried out and how the control measures in the Risk Assessment will be implemented.
- A copy of APPENDIX 1 (EXOLUM Emergency Contact Numbers) and APPENDIX 2 (EXOLUM Contacts) should be included in RAMS to ensure that those doing the work know who to contact in the event of an incident or emergency and what information is likely to be requested when calling.
- All works within the Easement Strip shall have prior consent before commencing work.
- All works within the Easement Strip to be overseen by the Pipeline O&M Team in accordance with a valid O&M Easement Access Agreement document.
- The sequence and duration of works shall be agreed with Operator. Any changes to the agreed programme need to be communicated to the Operator and/or the Pipeline O&M Team.
- A minimum of 10 working days shall be allowed for planned supervision, and 5 working days for un notified or unplanned work. The amount of supervision will be dependent on the type and complexity of the work affecting the pipeline and shall be agreed in advance of the work commencing.
- Proof the Third Party's and/or its Contractor's current insurance details shall be provided to enable the Work Consent Form to be processed. Levels of insurance may vary depending on the scope, complexity and potential impacts. As a rule insurances of at least £5 million per event will be required.
- Any changes to the Consented Scope/RAMs shall be advised to the Operator and/or the Pipeline O&M Team along with any additional supporting documents necessary to allow further review and agreement
- For the duration of the work on site the Easement Strip shall be marked and fenced off, except for agreed crossing points, to ensure that no unapproved works take place without the Pipeline O&M Team prior agreement.

7. INCIDENTS AND EMERGENCIES

7.1 Supervision

At all times during the course of any work in the vicinity of the pipeline the Third Party shall have suitably qualified and competent staff in place managing the work who are able to respond to emergencies in a pre-agreed manner.

Details of the Emergency Contact details for the pipeline operations are included in Appendix 1. These numbers should be included in the work RAMs and attached to any subsequent PTW so that they are immediately available to those undertaking the work at the point of any incident.

7.2 Emergencies

In the event of a leak or incident the following actions should be taken by the third party:

- Remove all personnel from the immediate vicinity;
- Remove all sources of ignition for at least 20 metres upwind and 50 metres downwind of any leak. This should include stopping engines, prohibiting smoking, extinguishing all naked flames and preventing the switching of electrical apparatus.
- Dial 999 and inform the Police and Fire Brigade.
- Contact the Operator (see Appendix 1).
- Prevent the approach of traffic and the general public.
- Do not attempt to seal any leaks
- Do not attempt to extinguish any flames if the leak has ignited
- Assist in safeguarding persons and property as necessary, or as directed by the Police, Fire Brigade or Operator.

7.3 Damage

Action to be taken if the pipeline has been damaged but has not caused leakage:

- Contact the Operator (see Appendix 1).
- Do not backfill and await the representative of the Operator to inspect the damage and decide on the action required.
- If damage to the pipeline does not cause a leak do not try and hide it. Dents and gouges in a pipe may cause it to fail at a later time with potentially catastrophic consequences. Report all damage, however seemingly insignificant, to the Operator.

APPENDIX 1 - EXOLUM Emergency Contact Numbers

In the event of an emergency on a EXOLUM site or pipeline first call the Emergency Services on 999 and provide the details.

Once the emergency services have been alerted contact the EXOLUM 24/7/365 Pipeline Control Centre Aldermaston 01189 712021

EXOLUM pipeline technician.....

EXOLUM pipeline supervisor

When contacting the Pipeline Control Centre please provide as much information as possible and confirm:

- Location Details – e.g. OS Reference, Site Address, Street Name.
- Details of Incident:
- Is there a leak?
- Rate of any leak/loss – e.g. fast slow
- Is there a fire?
- Have the emergency services been contacted and are they at site?
- Is there anything in the immediate vicinity that is affected such as:
- Members of the public?
- Schools?
- Hospitals?
- Sheltered Accommodation
- Watercourses?

- Road or footpaths?
- Railways?
- Buildings?
- Animals/Livestock?

EXAMPLE

EXAMPLE

384600

WARNING

THIS DRWG. IS NOT TO BE USED FOR CONSTRUCTION PURPOSES, THE LOCATION OF THE PIPE MUST BE VERIFIED AND PEGGED ON SITE BY THE PIPELINE OPERATOR BEFORE ANY EXCAVATION OR CONSTRUCTION WORK COMMENCES.

**FOR FURTHER DETAILS PLEASE CONTACT
FISHER GERMAN ON 0845 070 1245**

Ham

SO8448

SO8548

OVERVIEW WINDOW

Legenda

EXOLLIM

Cathodic Protection

Nearest Postcode:
WR5 3NH

Latitude & Longitude:
52.132781, -2.2237701

Site centre coordinates:
384.780 - 248.299

CLIENT:

TITLE:	
LOCATION PLAN EXTRACT	
OF PIPELINES	N/S(S)

SCALE: 1:2,500 @ A4
DATE: 14/06/2021

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WRITTEN PERMISSION OF FISHER GERMAN LLP
CHARTERED SURVEYORS

The Estates Office, Norman Court
Ashby de la Zouch,
Leicestershire, LE65 2UZ

Telephone 0845 070 1245

DRAWING NO:
NSS/WO/MH/2520

Site
Location

LAND to NW of JUNCTION BETWEEN PIXHAM FERRY LANE & OLD ROAD SOUTH, KEMPSEY, WORCESTER WR5

Report
No

1223

SITE PLAN



N

Not to scale

Legend

Proposed
Trial Pit soakage test

Proposed Trial Pit to locate oil pipeline

Proposed borehole for soakage test
(Location to be confirmed)

Assumed approximate route of
oil pipeline (to be confirmed on site)



TPD

TPC

TPB

TPA

SA1

SA2

SA3

BH1

Inferred route of oil pipeline only.
Actual location to be determined on
site by Ground Penetrating Radar
and hand excavated trial pits (TPA to
TPD)

Site Visit Record Sheet

Exolum

Pipeline Right of Way Office, Ashdon Road, Saffron Walden. CB10 2NF

Tel: 01799 564101

Email: pipelinelow@exolum.com (Quote ref: **212391**)

Site Visit Details

Exolum Representative

Date Submitted 15-06-21 11:30

Exolum Reference **212391**
(Please quote this reference in all correspondence with Exolum)

Third Parties Reference

Exolum Asset Ref NSS

Method Site

Location



Leaflet | © OpenStreetMap contributors © CARTO

Promoter Details

Organisation Kempsey Parish Council

Contact Name

Address Land at Pixham Ferry Lane

Phone Number 1905820552

Mobile Number

Email Kempseyparishcouncil@gmail.com

Third Party Representative

Third Party Representative Present Onsite		Yes
Organisation		Kempsey Parish Council
Contact Name		
Phone Number		
Email		
Details		
Site Visit Reason	Initial Site Visit	
Will the works potentially affect Exolum?	Yes	
Works Proposal Types	Development/Planning	
Are the works in Private Land or Highway	Private Land	
What types of asset are affected by the works	Pipeline	
Asset Names / References	N/S-S	
Further Information / Restrictions / Requirments	*Note works are not for sewer pipe but for development of land into sports pitches , same works as 202492NSS2530 site visit 8/9/20 Site meeting with Kempsey parish councillors to explain Exolum standard requirements Trial holes required to astablish location and depth of 10 in oil pipeline RAMS and insurance will be required from the appointed contractor carrying out the works. Consent will be required for all works to Development land Any problems or doubts 07720971079	
Photos / Images		

Exolum Personnel Travel and Time

Travel Time to Site	73 minutes
Time On Site	67 minutes
Mileage to Site	24

Please be aware that by signing below you are confirming that no further works can take place until you receive written confirmation from Exolum.

Signed

Exolum Representatives Signature