Application for an environmental permit Part A – About you

You will need to fill in this part A if you are applying for a new permit, applying to change an existing permit or surrender your permit, or want to transfer an existing permit to yourself. Please check that this is the latest version of the form available from our website.

You can apply online for Waste standard rules environmental permits, bespoke waste permits and bespoke Medium combustion plant permits

Apply online for an environmental permit.

Please read through this form and the guidance notes that came with it.

The form can be:

1) **saved onto a computer and then filled in. Please note that the form follows a logic that means questions will open or stay closed depending on a previous answer. So you may not be able to enter text in some boxes.**
2) **printed off and filled in by hand. Please write clearly in the answer spaces.**

Note: if you believe including information on a public register would not be in the interests of national security you must enclose a letter telling us that you have told the Secretary of State. We will not include the information in the public register unless directed otherwise.

It will take less than one hour to fill in this part of the application form.

Where you see the term 'document reference' on the form, give the document references and send the documents with the application form when you've completed it.

Contents

1 About you

Are you applying as an individual, an organisation of individuals (for example, a partnership), a company (this includes Limited Liability Partnerships) or a public body?

An individual	☐ Now go to section 2 and if you are applying for a new permit or transferring a permit for an installation or waste activity please also fill in Appendix 1
An organisation of individuals (for example, a partnership)	☐ Now go to section 3 and if you are applying for a new permit or transferring a permit for an installation or waste activity please also fill in Appendix 1
A public body	☐ Now go to section 4
A registered company or other corporate body	☑ Now go to section 5 and if you are applying for a new permit or transferring a permit for an installation or waste activity please also fill in Appendix 1

2 Applications from an individual

2a Please give us the following details

Name

Title (Mr, Mrs, Miss and so on) _____

First name _____

Last name _____

Now go to section 6

3 Applications from an organisation of individuals or charity

3a Type of organisation

For example, a charity, a partnership, a group of individuals or a club

3b Details of the organisation or charity

If you are an organisation of individuals, please give the details of the main representative below. If relevant, provide details of other members (please include their title Mr, Mrs and so on) on a separate sheet and tell us the document reference you have given this sheet

Contact name

Title (Mr, Mrs, Miss and so on)

First name

Last name

Now go to question 3c or section 6

3c Details of charity

Full name of charity

This should be the full name of the legal entity not any trading name.

3d Company registration number

If you are registered with Companies House please tell us your registration number

3e Charity Commission number

If you are registered with the Charity Commission please tell us your registration number

Now go to section 6

4 Applications from public bodies

4a Type of public body

For example, NHS trust, local authority, English county council

4b Name of the public body

4c Please give us the following details of the executive

An officer of the public body authorised to sign on your behalf

Name

Title (Mr, Mrs, Miss and so on)

First name

Last name

Position

Now go to section 6

5 Applications from companies or corporate bodies

5a Name of the company

SMITH'S (GLOUCESTER) LIMITED

5b Company registration number

04004654

Date of registration (DD/MM/YYYY)

31/05/2000

If you are applying as a corporate organisation that is not a limited company, please provide evidence of your status and tell us below the reference you have given the document containing this evidence.

Document reference

5 Applications from companies or corporate bodies, continued

5c Please give details of the directors

If relevant, provide details of other directors and company secretary, if there is one, on a separate sheet and tell us the reference you have given this sheet.

Document reference: 2153B/DoB

Details of company secretary (if relevant) and director/s

Title (Mr, Mrs, Miss and so on): Mrs

First name: Rebecca

Last name: Pullin

Title (Mr, Mrs, Miss and so on): Mr

First name: Alan

Last name: Smith

Now go to section 6

6 Your address

6a Your main (registered office) address

For companies this is the address on record at Companies House.

Contact name

Title (Mr, Mrs, Miss and so on): Ms

First name: Rebecca

Last name: Pullin

Address: Alkerton Court
Eastington
Stonehouse
Gloucestershire

Postcode: GL10 3AQ

Contact numbers, including the area code

Phone: 01453 822227

Fax:

Mobile:

Email: rebecca.pullin@smiths-gloucester.co.uk

For an organisation of individuals every partner needs to give us their details, including their title Mr, Mrs and so on. So, if necessary, continue on a separate sheet and tell us below the reference you have given the sheet.

Document reference:

6b Main UK business address (if different from above)

Contact name

Title (Mr, Mrs, Miss and so on):

First name:

Last name:

Address:

Postcode:

6 Your address, continued

Contact numbers, including the area code

Phone

Fax

Mobile

Email

Now go to section 7

7 Contact details

7a Who can we contact about your application?

It will help us if there is someone we can contact if we have any questions about your application. The person you name should have the authority to act on your behalf.

Please add a second contact on a separate sheet if this person is not always available.

Document reference of this separate sheet

This can be someone acting as a consultant or an 'agent' for you.

Contact name

Title (Mr, Mrs, Miss and so on) Ms

First name Lucy

Last name Binnie

Address Land & Mineral Management
Suite 1, Security House
82c Chesterton Lane
Cirencester

Postcode GL7 1YD

Contact numbers, including the area code

Phone 01285 656391

Fax

Mobile 07795143457

Email lb@landandmineral.co.uk

7b Who can we contact about your operation (if different from question 7a)?

Contact name

Title (Mr, Mrs, Miss and so on) Mr

First name Alan

Last name Ball

Address Smith's (Gloucester) Limited
Alkerton Court
Eastington
Stonehouse

Postcode GL10 3AQ

Contact numbers, including the area code

Phone 01453 822227

Fax

Mobile 07855361054

Email alan.ball@smiths-gloucester.co.uk

7 Contact details, continued

7c Who can we contact about your billing or invoice?

Note: Please provide the name and address that all invoices should be sent to for your subsistence fees.

As in question 7a ☐

As in question 7b ☐

Please give details below if different from question 7a or 7b.

Contact name

Title (Mr, Mrs, Miss and so on)	Ms
First name	Rebecca
Last name	Pullin
Address	Smith's (Gloucester) Limited
	Alkerton Court
	Eastington
	Stroud
Postcode	GL10 3AQ

Contact numbers, including the area code

Phone	01453 822227
Fax	
Mobile	
Email	rebecca.pullin@smiths-gloucester.co.uk

8 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422 549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it. More information on how to do this is available at: www.gov.uk/government/organisations/environment-agency/about/complaints-procedure.

Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.

9 Where to send your application

For how many copies to send see the guidance note on part A.

For water discharges by email to PSC-WaterQuality@environment-agency.gov.uk

For waste and installations by email to PSC@environment-agency.gov.uk

For flood risk activity permits send 1 copy only to enquiries@environment-agency.gov.uk or to the local Environment Agency office for where the work is proposed to be carried out.

Or

Permitting Support, NPS Sheffield
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐

Crystal Mark 19101
Clarity approved by Plain English Campaign

For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

No ☐

Yes ☐ Amount received

£

Appendix 1 – Date of birth information for installation and waste activities (applications for a new permit or transferring a permit) only

Date of birth information in this appendix will not be put onto our Public Register

Are you applying as an individual, an organisation of individuals (for example, a partnership) or a company (this includes Limited Liability Partnerships)?

An individual	☐ Now go to 2
An organisation of individuals (for example, a partnership)	☐ Now go to 3
A registered company or other corporate body	☑ Now go to 4

2 Applications from an individual

Please give us the following details

Name

Date of birth (DD/MM/YY)

3 Applications from an organisation of individuals or charity

Details of the organisation or charity

If you are an organisation of individuals, please give the date of birth details of the main representative below. If relevant, provide details of other members on a separate sheet and tell us the document reference you have given this sheet.

Name

Date of birth (DD/MM/YY)

Document reference

4 Applications from companies or corporate bodies

Name of the company

Please give the date of birth details for all directors and company secretary if there is one. If relevant, provide those details of other directors on a separate sheet and tell us the document reference you have given this sheet.

Details of company secretary (if relevant) and director/s

Name	Rebecca Pullin
Date of birth (DD/MM/YY)	
Name	Alan Robin Smith
Date of birth (DD/MM/YY)	
Name	Anne Smith
Date of birth (DD/MM/YY)	
Document reference	2153A/DoB

Application for an environmental permit
Part B2 – General – new bespoke permit

Environment Agency

Fill in this part of the form together with parts A and F1 if you are applying for a new bespoke permit. You also need to fill in part B3, B4, B5, B6, or B7 (this depends on what activities you are applying for).

Please check that this is the latest version of the form available from our website.

You can apply online for: waste operations; medium combustion plant; and specified generator bespoke environmental permits at **https://apply-for-environmental-permit.service.gov.uk/start/start-or-open-saved**

Please read through this form and the guidance notes that came with it.

The form can be:

1) saved onto a computer and then filled in.

2) printed off and filled in by hand. Please write clearly in the answer spaces

It will take less than two hours to fill in this part of the application form.

Contents

1 About the permit

1a Discussions before your application

If you have had discussions with us before your application, give us the permit reference or details on a separate sheet. Tell us below the reference you have given this extra sheet.

Permit or document reference

EPR/LB3103LG/A001

1 About the permit, continued

1b Is the permit for a site or for mobile plant?

☐ Mobile plant Now go to **question 1c**

☑ Site Now go to **section 2**

Note: The term 'mobile plant' does not include mobile sheep dipping units.

Mobile plant only

1c Have we told you during pre-application discussions that we believe that a mobile permit is suitable for your activity?

☐ No

☐ Yes

1d Have there been any changes to your proposal since this discussion?

☐ No Now go to **section 3**

☐ Yes You should send us a description of the activity you want to carry out, highlighting the changes you have made since our pre-application discussions

Document reference

Now go to **section 3**

2 About the site (excludes mobile plant)

2a What is the site name, address, postcode and national grid reference?

Site name

Land at Fromebridge east of A38

Address

Land East of A38, Fromebridge, Whitminster, Gloucestershire

Postcode

GL2 7PF

National grid reference for the site (for example, ST 12345 67890)

SO 77074 06682

2 About the site (excludes mobile plant), continued

2b What type of regulated facility are you applying for?

Note: if you are applying for more than one regulated facility then go to 2c.

- ☐ Installation
- ☐ Waste operation
- ☐ Mining waste operation
- ☐ Water discharge activity
- ☐ Groundwater activity (point source)
- ☐ Groundwater activity (discharge onto land)

What is the national grid reference for the regulated facility (if only one)?
(See the guidance notes on part B2.)

- ☑ As in 2a above
- ☐ Different from that in 2a Please fill in the national grid reference below

National grid reference for the regulated facility

Now go to **question 2d**

2c If you are applying for more than one regulated facility on your site, what are their types and their grid references?

See the guidance notes on part B2.

Regulated facility 1

National grid reference

What is the regulated facility type?

- ☐ Installation
- ☐ Waste operation
- ☐ Mining waste operation
- ☐ Water discharge activity
- ☐ Groundwater activity (point source)
- ☐ Groundwater activity (discharge onto land)

2 About the site (excludes mobile plant), continued

Regulated facility 2

National grid reference

What is the regulated facility type?

- ☐ Installation
- ☐ Waste operation
- ☐ Mining waste operation
- ☐ Water discharge activity
- ☐ Groundwater activity (point source)
- ☐ Groundwater activity (discharge onto land)

Use several copies of this page or separate sheets if you have a long list of regulated facilities. Send them to us with your application form. Tell us below the reference you have given these extra sheets.

Document reference

Now go to **question 2d**

2d Low impact installations (installations only)

Are any of the regulated facilities low impact installations?

- ☑ No
- ☐ Yes If yes, tell us how you meet the conditions for a low impact installation (see the guidance notes on part B2 – Appendix 1).

Document reference

- ☐ Tick the box to confirm you have filled in the low impact installation checklist in **appendix 1** for each regulated facility

2e Treating batteries

Are you planning to treat batteries? (See the guidance notes on part B2.)

- ☑ No
- ☐ Yes Tell us how you will do this, send us a copy of your explanation and tell us below the reference you have given this explanation

Document reference for the explanation

2 About the site (excludes mobile plant), continued

2f Ship recycling

Is your activity covered by the Ship Recycling Regulations 2015? (See the guidance notes on part B2.)

☑ No

☐ Yes Tell us how you will do this. Please send us a copy of your explanation and your facility recycling plan, and tell us below the reference numbers you have given these documents

Document reference for the explanation

Document reference for the facility recycling plan

2g Multi-operator installation

If the site is a multi-operator site (that is there is more than one operator of the installation) then fill in the table below the application reference for each of the other permits.

Table 1 – Other permit application references

3 Your ability as an operator

If you are only applying for a standalone water discharge or for a groundwater activity, you only have to fill in **question 3d**.

3a Relevant offences

Applies to all except standalone surface water discharges and groundwater discharges (see the guidance notes on part B2).

3a1 Have you, or any other relevant person, been convicted of any relevant offence?

☑ No Now go to **question 3b**

☐ Yes Please give details below

3 Your ability as an operator, continued

Name of the relevant person

Title (Mr, Mrs, Miss and so on)

First name

Last name

Position held at the time of the offence

Name of the court where the case was dealt with

Date of the conviction (DD/MM/YYYY)

Offence and penalty set

Date any appeal against the conviction will be heard (DD/MM/YYYY)

If necessary, use a separate sheet to give us details of other relevant offences and tell us below the reference number you have given the extra sheet.

Now go to **question 3b**

Please also complete the details in **Appendix 2**.

3b Technical ability

Relevant waste operations only (see the guidance notes on part B2).

Please indicate which of the two schemes you are using to demonstrate you are technically competent to operate your facility and the evidence you have enclosed to demonstrate this.

ESA/EU skills

Please select one of the following:

☐ I have enclosed a copy of the current Competence Management System certificate

or

☐ We will have a certified Competence Management System within 12 months and have enclosed evidence of the contract with an accredited certification body

3 Your ability as an operator, continued

CIWM/WAMITAB scheme

Your answers below must relate to the person(s) providing technically competent management when the permitted activities start.

Please select **one** of the following:

- I have enclosed a copy of:

  ☑ the relevant qualification certificate/s

  or

  ☐ evidence of deemed competence

  or

  ☐ Environment Agency assessment

  or

  ☐ evidence of nominated manager status under the transitional provisions for previously exempt activities

  and, if deemed competent or Agency-assessed, or nominated manager, or if the original qualification is over two years old:

  ☑ I have enclosed a copy of the relevant current continuing competence certificate/s

- ☐ The technically competent manager will complete their qualification within four weeks of starting the permitted activities and I have enclosed evidence of their registration with WAMITAB or their EPOC booking as appropriate

- **For medium- and high-risk tier activities other than landfill**

  The technically competent manager will complete the qualification within 12 months and I have enclosed evidence of their registration with WAMITAB and, where relevant, EPOC booking.

  ☐ I understand they must complete either four specified units of the relevant qualification or an EPOC within four weeks of the permitted activities commencing

For each technically competent manager please give the following information. If necessary, use a separate sheet to give us these details and tell us below the document reference you have given the extra sheet.

Title (Mr, Mrs, Miss and so on)

Mr

First name

Peter

Last name

Martin

Phone

01453822227

Mobile

07929361020

Email

peter.martin@smiths - gloucester.co.uk

3 Your ability as an operator, continued

Please provide the environmental permit number/s and site address for all other waste activities that the proposed technically competent manager provides technical competence for, including permits held by other operators. Continue on a separate sheet as required.

Permit number	Site address	Postcode
EPR/NP3492ER	Cotswold Hill Quarry, Ford, Temple Guiting, Cheltenham, Gloucestershire	GL54 5RU
EPR/WE1200AB	Hill Farm, Berrow, Malvern	WR13 6JW

Document reference

Now go to **question 3c**

Please also complete the details in **Appendix 2**.

3c Finances

Installations, waste operations and mining waste operations only.

Please note that if you knowingly or carelessly make a statement that is false or misleading to help you get an environmental permit (for yourself or anyone else), you may be committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

Do you, or any relevant person, or a company in which you (or they) (or any relevant person) were a relevant person, have current or past bankruptcy or insolvency proceedings against you?

☑ No

☐ Yes Please give details below, including the required set-up costs (including infrastructure), maintenance and clean up costs for the proposed facility against which a credit check may be assessed

We may want to contact a credit reference agency for a report about your business's finances.

3 Your ability as an operator, continued

Landfill, Category A mining waste facilities and mining waste facilities for hazardous waste only

How do you plan to make financial provision (to operate a landfill or a mining waste facility you need to show us that you are financially capable of meeting the obligations of closure and aftercare)?

- ☐ Renewable bonds
- ☐ Cash deposits with the Environment Agency
- ☐ Other – provide comprehensive details

Document reference

Provide a cost profile and expenditure plan of your estimated costs throughout the aftercare period of your site.

Document plan reference

Now go to **question 3d**

3d Management systems (all)

You must have an effective, written management system in place that identifies and reduces the risk of pollution. You may show this by using a certified scheme or your own system.

Your permit requires you (as the operator) to ensure that you manage and operate your activities in accordance with a written management system.

You need to be able to explain what happens at each site and which parts of the overall management system apply. For example at some sites you may need to show you are carrying out additional measures to prevent pollution because they are nearer to sensitive locations than others.

For waste and installation permits only: your management system must also explain your resilience to climate change.

You can find guidance on management systems on our website at **https://www.gov.uk/guidance/develop-a-management-system-environmental-permits**

- ☐ **Tick this box to confirm that you have read the guidance and that your management system will meet our requirements**

What management system will you provide for your regulated facility?

- ☐ ISO 14001
- ☐ BS 8555 (Phases 1–5)
- ☐ Green dragon
- ☐ Own management system
- ☐ EMAS Global
- ☑ Other

Please make sure you send us a summary of your management system with your application.

Document reference/s

2153B/MS

4 Consultation

Fill in 4a to 4c for installations and waste operations and 4d for installations only.

Could the waste operation or installation involve releasing any substance into any of the following?

4a A sewer managed by a sewerage undertaker?

☑ No

☐ Yes Please name the sewerage undertaker

4b A harbour managed by a harbour authority?

☑ No

☐ Yes Please name the harbour authority

4c Directly into relevant territorial waters or coastal waters within the sea fisheries district of a local fisheries committee?

☑ No

☐ Yes Please name the fisheries committee

4d Is the installation on a site for which:

4d1 a nuclear site licence is needed under section 1 of the Nuclear Installations Act 1965?

☑ No

☐ Yes

4d2 a policy document for preventing major accidents is needed under regulation 5 of the Control of Major Accident Hazards Regulations 2015, or a safety report is needed under regulation 7 of those Regulations?

☑ No

☐ Yes

5 Supporting information

5a Provide a plan or plans for the site

But not any mobile plant

Clearly mark the site boundary or discharge point, or both. Also include site drainage plans, site layout plans, and plant design drawings/process flow diagrams (as required).
(See the guidance notes on part B2.)

Document reference/s of the plans

SM/244/06

5 Supporting information, continued

5b Provide the relevant sections of a site condition/baseline report if this applies

See the guidance notes on part B2 for what needs to be marked on the plan.

Document reference of the report

2153B/SCR

☐ If you are applying for an installation, tick the box to confirm that you have sent in a baseline report

5c Provide a non-technical summary of your application

See the guidance notes on part B2.

Document reference of the summary

2153B/NTS

5d Are you applying for an activity that includes the storage of combustible wastes?

This applies to all activities excluding standalone water and groundwater discharges.

☑ No

☐ Yes Provide a fire prevention plan (see the guidance notes on part B2). You need to highlight any changes you have made since your pre-application discussions.

Document reference of the plan

6 Environmental risk assessment

Provide an assessment of the risks each of your proposed regulated facilities poses to the environment. The risk assessment must follow the methodology set out in 'Risk assessments for your environmental permit' at **https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit** or an equivalent method.

Document reference for the assessments

2153B/ERA

7 How to contact us

If you have difficulty using this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422 549 (Monday to Friday, 8am to 6pm)

Email: **enquiries@environment-agency.gov.uk**

Website: **www.gov.uk/government/organisations/environment-agency**

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it.

Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.

7 How to contact us, continued

Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

☐ Yes please

☐ No thank you

For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

☐ No

◯ Yes

Amount received (£)

Plain English Campaign's Crystal Mark does not apply to Appendix 1.

Appendix 1 – Low impact installation checklist

See the guidance notes on part B2.

Installation reference			
Condition	**Response**		**Do you meet this?**
A – Management techniques	Provide references to show how your application meets A References		☐ Yes ☐ No
B – Aqueous waste	Effluent created m³/day		☐ Yes ☐ No
C – Abatement systems	Provide references to show how your application meets C References		☐ Yes ☐ No
D – Groundwater	Do you plan to release any hazardous substances or non-hazardous pollutants into the ground? ☐ Yes ☐ No		☐ Yes ☐ No
E – Producing waste	Hazardous waste Tonnes per year Non-hazardous waste Tonnes per year		☐ Yes ☐ No
F – Using energy	Peak energy consumption MW		☐ Yes ☐ No
G – Preventing accidents	Do you have appropriate measures to prevent spills and major releases of liquids? ☐ Yes ☐ No Provide references to show how your application meets G References		☐ Yes ☐ No
H – Noise	Provide references to show how your application meets H References		☐ Yes ☐ No
I – Emissions of polluting substances	Provide references to show how your application meets I References		☐ Yes ☐ No
J – Odours	Provide references to show how your application meets J References		☐ Yes ☐ No
K – History of keeping to the regulations	Say here whether you have been involved in any enforcement action (as described in 'Appendix 1 – Compliance history' section of part B2 guidance notes)	☐ Yes ☐ No	

Appendix 2 – Date of birth information for Relevant offences and/or Technical ability questions only

Date of birth information in this appendix will not be put onto our Public Register.

Have you filled in the Relevant Offences question?

☐ Yes

☐ No

Have you filled in the Technical ability question?

☐ Yes

☐ No

Relevant Offences – date of birth information

Please give us the following details

Name

Date of birth (DD/MM/YYYY)

Technical ability – date of birth information

Name

Date of birth (DD/MM/YYYY)

Application for an environmental permit
Part B4 – New bespoke waste operation permit

Environment Agency

Fill in this part of the form, together with parts A, B2 and F1, if you are applying for a new bespoke permit for a waste operation. Please check that this is the latest version of the form available from our website.

Please read through this form and the guidance notes that came with it.

You can apply online for waste bespoke environmental permits.

Apply online for an environmental permit.

The form can be:

1) saved onto a computer and then filled in. Please note that the form follows a logic that means questions will open or stay closed depending on a previous answer. So you may not be able to enter text in some boxes.
2) printed off and filled in by hand. Please write clearly in the answer spaces.

It will take less than three hours to fill in this part of the application form.

Contents

1 What waste operations are you applying for?

Fill in Table 1a with details of what you are applying for.

Fill in a separate table for each waste operation you are applying for. Use a separate sheet if you have a long list and send it to us with your application form. Tell us below the reference you have given the extra sheet.

Document reference

Types of waste accepted

For each line in Table 1a, fill in a separate document to list those wastes you will accept on the site for that operation, giving the List of Wastes catalogue code (search for 'Technical guidance on how to assess and classify waste' at www.gov.uk/government/organisations/environment-agency). If you need to exclude waste from your activity or facility by restricting the description, quantity, physical nature, hazardous properties, composition or characteristic of the waste, include these in the document. Send it to us with your application form.

1 What waste operations are you applying for?, continued

Table 1a – Waste operations which do not form part of an installation

Name of the waste operation	Description of the waste operation	Annex I (D codes) and Annex II (R codes) and descriptions	Hazardous waste treatment capacity (if this applies) (See note 1)	Non-hazardous waste treatment capacity (if this applies) (See note 1)
Add extra rows if you need them. If you do not have enough room, go to the line below or send a separate document and give us the document reference here	Use the description from the guidance. Include any extra detail that you think would help to accurately describe what you want to do			
Land at Fromebridge east of A38		R5, R10 & R13		
For all waste operations	Total storage capacity (see note 2)			5,000.00
	Annual throughput (tonnes each year)			85,000.00

Notes

1 By 'capacity', we mean:

- the total landfill capacity (cubic metres) for landfills
- the total treatment capacity (tonnes each day) for waste treatment
- the total storage capacity (tonnes) for waste-storage operations

2 By 'total storage capacity', we mean the maximum amount of waste in tonnes you store on the site at any one time.

1 What waste operations are you applying to vary?, continued

Please provide the document reference. You can use Table 1b as a template.

If you want to accept any waste with a code ending in 99, you must provide more information and a full description of the waste in the document, (for example, detailing the source, nature and composition of the waste). Where you only want to receive specific wastes within a waste code you can provide further details of the waste you want to receive. Where a waste is dual coded you should use both codes for the waste.

Document reference: 2153B/WAP

Table 1b – Template example – types of waste accepted and restrictions

Waste code	Description of the waste
Example	Example
02 01 08*	Agrochemical waste containing hazardous substances
18 01 03*	Infectious clinical waste, not contaminated with chemicals or medicines – human healthcare (may contain sharps) for alternative treatment
17 05 03*/17 06 05*	Non-hazardous soil from construction or demolition contaminated with fragments of asbestos cement sheet

1c Deposit for recovery purposes (see Appendix 4 and the guidance notes on part B4)

Are you applying for a waste recovery activity involving the permanent deposit on waste on land for construction or land reclamation (including landfill restoration)?

No ☐ Go to section 2

Yes ☑

Are you applying for an inert landfill permit that includes a restoration activity using waste?

No ☑ Go to section 2

Yes ☐ Please send us a copy of your restoration plan in accordance with our guidance at https://www.gov.uk/guidance/landfill-operators-environmental-permits/restore-your-landfill-site

Have we advised you during pre-application discussions that we believe the activity is waste recovery?

No ☐ Go to section 2

Yes ☑

Have there been any changes to your proposal since the discussions?

No ☑

Yes ☐

Please send us a copy of your waste recovery plan that complies with our guidance at https://www.gov.uk/guidance/waste-recovery-plans-and-permits. You need to highlight any changes you have made since your pre-application discussions. Also give us the reference number of the document with your justification.

Please note that there is an additional charge for the assessment of a waste recovery plan that must be submitted as part of this application. For the charge see https://www.gov.uk/topic/environmental-management/environmental-permits.

Document reference: Fromebridge WRP vs 1.1 dated 7 April 2022

2 Point source emissions to air, water and land

Fill in Table 2 below with details of the point source emissions that result from the operating techniques at each of your waste operations.

Fill in one table for each waste operation.

Table 2 – Emissions

Name of the waste operation	Land at Fromebridge east of A38			
Point source emissions to air				
Emission point reference and location	Source	Parameter	Quantity	Unit
n/a				
Point source emissions to water (other than sewers)				
Emission point reference and location	Source	Parameter	Quantity	Unit
n/a				
Point source emissions to sewers, effluent treatment plants or other transfers off site				
Emission point reference and location	Source	Parameter	Quantity	Unit
n/a				
Point source emissions to land				
Emission point reference and location	Source	Parameter	Quantity	Unit
n/a				

Supporting information

3 Operating techniques

3a Technical standards

Fill in Table 3a for each waste operation you refer to in Table 1a above and list the 'appropriate measures' you are planning to use. If you are using the standards set out in the relevant technical guidance(s) (TGN) there is no need to justify using them within your documents in Table 3a.

You must justify your decisions in a separate document if:

- there is no technical standard
- the technical guidance provides a choice of standards, or
- you plan to use another standard

This justification could include a reference to the Environmental Risk Assessment provided in part B2 of the application form.

Table 3a should summarise:

- the operations undertaken
- the measures you will use to control the emissions from your process, as identified in your risk assessment or the relevant technical guidance
- how you will meet other standards set out in the relevant technical guidance

Table 3a – Technical standards

Fill in a separate table for each waste operation.

Waste operation		
Description of the waste operation Add extra rows if you need them	Appropriate measure (TGN reference)	Document reference (if appropriate)
Deposit for recovery	Recovery plans and permits	www.gov.uk
	Develop an EMS: Environmental Permits	www.gov.uk

In all cases, describe the type of facility or operation you are applying for and provide site infrastructure plans, location plans and process flow diagrams or block diagrams to help describe the operations and processes undertaken. Give the document references you use for each plan, diagram and description.

Document reference

3b General requirements

Fill in a separate table for each waste operation.

Table 3b – General requirements

Name of the waste operation	Land at Fromebridge east of A38
If the technical guidance or your risk assessment shows that emissions of substances not controlled by emission limits are an important issue, send us your plan for managing them	Document reference or references Isopleth DEMP dated 11 July 2022
If the technical guidance or your risk assessment shows that odours are an important issue, send us your odour management plan. **If your activity type is listed in the guidance document 'Control and monitor emissions for your environmental permit' as needing an odour management plan, or your risk assessment shows that odours are an important issue, you need to send us your odour management plan.**	Document reference or references n/a
If the technical guidance or your risk assessment shows that noise or vibration are important issues, send us your noise or vibration management plan (or both)	Document reference or references R9573-1 Rev 1 Noise Impact Assessment

3 Operating techniques, continued

We may need to ask for management plans or risk assessments in other circumstances based on our regulatory experience. If you are unsure as to whether you need to submit a management plan with your application, please discuss this with the Environment Agency prior to submission.

Search for 'Risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency.

3c Information for specific sectors

For some of the sectors, we need more information to be able to set appropriate conditions in the permit. This is as well as the information you may provide in sections 5, 6 and 7. For those activities listed in Table 3c, you must answer the questions in the related document.

Table 3c – Questions for specific sectors

Sector	Appendix
Recovery to land for agricultural benefit of compost like outputs from the treatment of mixed municipal solid wastes	See the questions in appendix 1
Inert landfill and deposit of waste on land for construction, land reclamation, restoration or improvement	See the questions in appendix 2

General information

4 Monitoring

4a Describe the measures you use for monitoring emissions by referring to each emission point in Table 2 above

You should also describe any environmental monitoring. Tell us:

- how often you use these measures
- the methods you use
- the procedures you follow to assess the measures

Document reference: 2153B/ESSD

4b Point source emissions to air only

Provide an assessment of the sampling locations used to measure point source emissions to air. The assessment must use M1 (search for 'M1 sampling requirements for stack emission monitoring' at www.gov.uk/government/organisations/environment-agency).

Document reference of the assessment: n/a

5 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422 549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it.

Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.

Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐

For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

No ☐

Yes ☐ Amount received

£

Plain English Campaign's Crystal Mark does not apply to appendices 1 to 2.

Appendix 1 – Specific questions for the recovery to land for agricultural benefit of compost like outputs from the treatment of mixed municipal solid wastes

1 Please provide an accurate and reliable characterisation of your compost like outputs (CLO). This should be based on sampling and analysis of the CLO produced by the treatment (MBT) process over a 12-month period and in accordance with section 2 of TGN 6.15

Document reference

2 Please provide an agricultural benefit assessment for the use of your CLO. This should be based on section 2 of TGN 6.15 and should be signed and dated by an appropriate technical expert

Document reference

3 Please provide a site-specific risk assessment of risks to soil and food chain receptors. This should be based on Schedule 2 of TGN 6.15 and include a map with a green outline showing the boundary of the area being treated and include:

- locations where the waste will be stored and spread
- any spring, well or borehole used to supply water for domestic or food production purposes that is within 250 metres of the area being treated
- any spring, well or borehole not being used for domestic or food production purposes that is within 50 metres of the area being treated
- any European designated sites (candidate or Special Area of Conservation, proposed or Special Protections Area in England and Wales or Ramsar Site) or Sites of Special Scientific Interest (SSSI) which are within 500 metres of the place where waste is to be stored or spread
- the location of public rights of way
- any Groundwater Source Protection Zones
- surface watercourses
- any buildings or houses within 250 metres of the area being treated
- land drains within the boundary

Document reference

4 Are the technical standards and measures fully in line with those set out in section 3 of TGN 6.15?

No ☐ Provide justification for departure from TGN 6.15 and a copy of the proposed technical standards, measures or procedures

Document reference

Yes ☐

Appendix 2 – Specific questions for inert waste landfill and deposit for recovery operations

1 Please provide your Environmental Setting and Site Design (ESSD) report

Document reference 2153B/ESSD

Note: You should use the Environment Agency template to help you develop an environmental setting and site design (ESSD) report.

2 Please provide your Waste Acceptance Procedures (including Waste Acceptance Criteria)

Document reference 2153B/WAP

3 Have you provided a hydrogeological risk assessment (HRA) for the site?

No ☑ Please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ Document reference

4 Have you completed an outline engineering plan for the site?

No ☑ Please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ Document reference

5 Have you provided a stability risk assessment (SRA) for your site?

No ☑ Please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ Document reference

Appendix 2 – Specific questions for inert waste landfill and deposit for recovery operations, continued

6 Have you completed a monitoring plan for the site?

No ☑ Please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ Document reference

7 Have you completed a plan for closing the site and procedures for looking after the site once it has closed?

No ☑ If no for deposit for recovery activities please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ For inert waste landfill you must provide a closure plan

Document reference

Spreading waste to support plant growth

8a Does the activity involve the deposit of waste to create or treat a growing medium (R10 for land treatment)?

No ☑

Yes ☐

8b If you answered 'yes' to question 8a, does the R10 activity include the spreading of waste to improve the quality of the growing medium (e.g. soil conditioner to improve existing soil profile)?

No ☑

Yes ☐ Go to question 8c

8c If you have answered 'Yes' to question 8b, have you completed a benefit statement?

No ☐ Please explain why

Document reference

Yes ☐

Note: Refer to our guidance when completing your statement (including EPR 8.01, section 6).

Application for an environmental permit
Part F1 – Charges and declarations

Environment Agency

Fill in this part for all applications for installations, waste operations, mining waste operations, water discharges, point source groundwater discharges and groundwater discharges onto land. Please check that this is the latest version of the form available from our website.

Please read through this form and the guidance notes that came with it.

The form can be:

1) **saved onto a computer and then filled in. Please note that the form follows a logic that means questions will open or stay closed depending on a previous answer. So you may not be able to enter text in some boxes.**
2) **printed off and filled in by hand. Please write clearly in the answer spaces.**

It will take less than two hours to fill in this part of the application form.

Contents

Each individual who is applying for their name to appear on the permit must complete the declaration in section 5. You will have to print a separate copy of the declaration page for each additional individual to complete.

1 Working out charges

You must fill in this section.

You have to submit an application fee with your application. You can find out the charge by searching for 'Environment Agency charging scheme and guidance: environmental permits' at www.gov.uk/government/organisations/environment-agency.

Please remember that the charges are revised on 1 April each year and that there is an annual subsistence charge to cover the costs we incur in the ongoing regulation of the permit.

Table 1 – Type of application (fill number of activity being applied for in each column)

Installation	Waste	Mining waste	Medium Combustion Plant (MCP)/Specified Generator (SG)	Water discharge/point source discharge to groundwater	Groundwater spreading onto land
	1				

Table 2 – Charge type (A)

Charge activity reference	Charge activity description	What are you applying to do? E.g. new, minor variation, normal variation, substantial variation, surrender, low risk surrender, transfer	Amount
e.g. 1.17.3	e.g. Sect 5.2 landfill for hazardous waste	e.g. transfer	e.g. £5,561
1.17.9	Deposit of waste for recovery	new	£ 9,207.00
Total A			£ 9,207.00

1 Working out charges (you must fill in this section), continued

Table 3 – Additional assessment charges (B)

Part 1.19 Charges for plans and assessments			Tick appropriate
Reference	Plan or assessment	Charge	
1.19.1	Waste recovery plan	£1,231	☐
1.19.2	Habitats assessment (except where the application activity is a flood risk activity)	£779	☐
1.19.3	Fire prevention plan (except where the application activity is a farming installation)	£1,241	☐
1.19.4	Pests management plan (except where the application activity is a farming installation)	£1,241	☐
1.19.5	Emissions management plan (except where the application activity is a farming installation)	£1,241	☐
1.19.6	Odour management plan (except where the application activity is a farming installation)	£1,246	☑
1.19.7	Noise and vibration management plan (except where the application activity is a farming installation)	£1,246	☑
1.19.8	Ammonia emissions risk assessment (intensive farming applications only)	£620	☐
1.19.9	Dust and bio-aerosol management plan (intensive farming applications only)	£620	☐
	Advertising	£500	☐
Total B			£ 2,492.00

Total charges

Total A plus total B £ 11,699.00

2 Payment

Tick below to show how you have paid.

Cheque ☐

Postal order ☐

Cash ☐ Tick below to confirm you are enclosing cash with the application

Credit or debit card ☐

Electronic transfer (for example, BACS) ☑

Remittance number PSCAPPSMITH922

Date paid (DD/MM/YYYY) 09/09/2022

How to pay

Paying by cheque, postal order or cash

Cheque details

Cheque made payable to

Cheque number

Amount £

You should make cheques or postal orders payable to 'Environment Agency' and make sure they have 'A/c Payee' written across them if it is not already printed on.

Please write the name of your company and application reference number on the back of your cheque or postal order. **We will not** accept cheques with a future date on them.

We do not recommend sending cash through the post. If you cannot avoid this, please use a recorded delivery postal service and enclose your application reference details. Please tick the box below to confirm you are enclosing cash.

I have enclosed cash with my application ☐

2 Payment, continued

Paying by credit or debit card

If you are paying by credit or debit card we can call you. We will destroy your card details once we have processed your payment. We can accept payments by Visa, MasterCard or Maestro card only.

Please call me to arrange payment by debit or debit card ☐

Paying by electronic transfer BACS reference

If you choose to pay by electronic transfer you will need to use the following information to make your payment.

Company name	Environment Agency
Company address	SSCL (Environment Agency), PO Box 797, Newport Gwent, NP10 8FZ
Bank	RBS/NatWest
Address	London Corporate Service Centre, CPB Services, 2nd Floor, 280 Bishopsgate, London EC2M 4RB
Sort code	60-70-80
Account number	10014411
Account name	EA RECEIPTS
Payment reference number	PSCAPPXXXXXYYY

You need to create your own reference number. It should begin with PSCAPP (to reflect that the application is for a permitted activity) and it should include the first five letters of the company name (replacing the X's in the above reference number) and a unique numerical identifier (replacing the Y's in the above reference number). The reference number that you supply will appear on our bank statements.

If you are making your payment from outside the United Kingdom, it must be in sterling. Our IBAN number is GB23NWK60708010014411 and our SWIFTBIC number is NWBKGB2L.

If you do not quote your reference number, there may be a delay in processing your payment and application.

Provide a unique reference number for the application, i.e. do not only use the company name only

State who is paying (full name and whether this is the agent/ applicant/other)

Fee paid £

Date payment sent (DD/MM/YYYY)

Now read section 3 below

You should also email your payment details and reference number to ea_fsc_ar@gov.sscl.com.

3 Privacy notice

The Environment Agency runs the environmental permit application service.

We are the data controller for this service. A data controller determines how and why personal information is processed.

Our personal information charter explains:

- your rights
- what we do with your personal information

We're allowed to process your personal information because we have official authority as the environmental regulator. We need this information to carry out a task in the public interest that is set out in law. As the data controller, when you apply for an environmental permit, we have a legal obligation to process your personal data under the Environmental Permitting Regulations. The second lawful basis for processing your personal data is to comply with this legal obligation.

We need your personal information to process your environmental permit application. If you do not give us this information we cannot issue a permit to you. After we've issued a permit to you, we use your personal information:

- to check that you're complying with your permit
- during any potential enforcement action

What personal information we collect

If you're the individual applicant, director or company secretary of a company applying or a technically competent manager we need your:

- name
- date of birth

3 Privacy notice, continued

- address
- email address

If you're the agent, consultant, employee responsible for the activity or the employee responsible for billing and invoicing we need your:

- name
- address
- email address

If you're the applicant we need details of any:

- convictions
- bankruptcy

We also collect any questions or feedback you leave, including your email address if you contact us.

Your responsibility with other people's personal information

If you've included personal information about other people on your application, you must tell them. You must provide them with a copy of this privacy notice so that they know how their personal information will be used.

What we do with your personal information

We use your personal information to help us decide whether to issue you with a permit.

The information (except dates of birth) is available online on our consultation website during the consultation period. This website is available to everyone so your information may be seen outside the European Economic Area.

After consultation we put all the information (except dates of birth) you give us in your application on our public register.

If you can demonstrate that any information you send us is commercially or industrially confidential, we'll consider withholding that information from our public register.

If you think that the information you'll send us may be a threat to national security you must contact the Secretary Of State before you apply. You must still send us that information with your application. We will not include this information on our public register unless the Secretary of State decides it can be included.

See the environmental permitting guidance for guidance on national security.

We may use your email address to contact you for user research to improve our service. You don't have to take part in the research.

Where your personal information is processed and stored

We store and process your personal information on servers in the UK. We will not host your personal information outside the European Economic Area.

We do not use your personal information to make an automated decision or for automated profiling.

How long we keep your personal information

We keep your personal information while your permit is in use and for 7 years after you surrender your permit. If the permit is for a landfill site, we keep the data for 10 years after surrender.

Removing personal information from the public register

We will remove your personal information from the public register if:

- you withdraw your application
- we refuse your application and the time limit for appealing the decision has expired or an appeal is dismissed
- the information is no longer relevant for public participation purposes under the Environmental Permitting Regulations

Contact

Our Data Protection Team gives independent advice. They monitor how the Environment Agency uses your personal information.

If you have questions or concerns about how we process personal information, or to make a complaint or request relating to data protection, please contact:

Address: Data Protection Team
Environment Agency
Horizon House
Deanery Road
Bristol
BS1 5AH

3 Privacy notice, continued

Email: dataprotection@environment-agency.gov.uk

You can also make a complaint to the Information Commissioner's Office (ICO).

The ICO is the supervisory authority for data protection legislation. The ICO website has a full list of your rights under data protection legislation.

Now read section 4 below

4 Confidentiality and national security

Confidentiality

We will normally put all the information in your application on a public register of environmental information. However, we may not include certain information in the public register if this is in the interests of national security, or because the information is confidential.

You can ask for information to be made confidential by enclosing a letter with your application giving your reasons. If we agree with your request, we will tell you and not include the information in the public register. If we do not agree with your request, we will let you know how to appeal against our decision, or you can withdraw your application. You can find guidance on confidentiality in 'Environmental permitting guidance: core guidance', published by Defra and available via our website at www.gov.uk/government/organisations/environment-agency.

Only tick the box below if you wish to claim confidentiality for your application

Please treat the information in my application as confidential ☐

National security

You can tell the Secretary of State that you believe including information on a public register would not be in the interests of national security. You must enclose a letter with your application telling us that you have told the Secretary of State and you must still include the information in your application. We will not include the information in the public register unless the Secretary of State decides that it should be included.

You can find guidance on national security in 'Environmental permitting guidance: core guidance', published by Defra and available via our website at www.gov.uk/government/organisations/environment-agency.

You cannot apply for national security via this application.

Now fill in section 5

5 Declaration

If you knowingly or carelessly make a statement that is false or misleading to help you get an environmental permit (for yourself or anyone else), you may be committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

A relevant person should make the declaration (see the guidance notes on part F1). An agent acting on behalf of an applicant is NOT a relevant person.

Each individual (or individual trustee) who is applying for their name to appear on the permit must complete this declaration. You will have to print a separate copy of this page for each additional individual to complete.

If you are transferring all or part of your permit, both you and the person receiving the permit must make the declaration. You must fill in the declaration directly below; the person receiving the permit must fill in the declaration under the heading 'For transfers only'.

Note: we will issue a letter to both current and new holders to confirm the transfer. If you are changing address we will need to send this letter to your new address; therefore please tell us your new address in a separate letter.

If you are unable to trace one or more of the current permit holders please see below under the transfers declaration.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

If you deliberately make a statement that is false or misleading in order to get approval you may be prosecuted.

I confirm that my standard facility will fully meet the rules that I have applied for (this only applies if the application includes standard facilities) ☐

Tick this box to confirm that you understand and agree with the declaration above, then fill in the details below (you do not have to provide a signature as well) ☑

Tick this box if you do not want us to use information from any ecological survey that you have supplied with your application (for further information please see the guidance notes on part F1) ☐

5 Declaration, continued

Name

Title (Mr, Mrs, Miss and so on)	Mr
First name	Alan
Last name	Smith
on behalf of (if relevant; for example, a company or organisation and so on)	Smiths (Gloucester) Limited
Position (if relevant; for example, in a company or organisation and so on)	Director
Today's date (DD/MM/YYYY)	08/09/2022

For transfers only – declaration for person receiving the permit

A relevant person should make the declaration (see the guidance notes on part F1). An agent acting on behalf of an applicant is NOT a relevant person.

I declare that the information in this application to transfer an environmental permit to me is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

Note: If you cannot trace a person or persons holding the permit you may be able to transfer the permit without their declaration as above. Please contact us to discuss this and supply evidence in your application to confirm you are unable to trace one or all of the permit holders.

If you deliberately make a statement that is false or misleading in order to get approval you may be prosecuted.

Tick this box to confirm that you understand and agree with the declaration above, then fill in the details below (you do not have to provide a signature as well)	☐

Name

Title (Mr, Mrs, Miss and so on)	
First name	
Last name	
on behalf of (if relevant; for example, a company or organisation and so on)	
Position (if relevant; for example, in a company or organisation and so on)	
Today's date (DD/MM/YYYY)	

Now go to section 6

6 Application checklist

You must fill in this section.

If your application is not complete we will return it to you. If you aren't sure about what you need to send, speak to us before you submit your application.

You must do the following:

Complete legibly all parts of this form that are relevant to you and your activities	☑
Identify relevant supporting information in the form and send it with the application	☑
List all the documents you are sending in the table below. If necessary, continue on a separate sheet. This separate sheet also needs to have a reference number and you should include it in the table below	☑
For new permits or any changes to the site plan, provide a plan that meets the standards given in the guidance note on part F1	☑
Provide a supporting letter for any claim that information is confidential	☐
Get the declaration completed by a relevant person (not an agent)	☐
Send the correct fee	☑

6 Application checklist, continued

Question reference	Document title	Document reference
EPA Qs 5c & App1 4	Date of birth information for Directors and Secretar	2153B/DoB
EPB2 Q3	Peter Martin	CCCT cert no 519226 and originals
EPB2 Q3d	Summary of Management System	2153B/MS
EPB2 Q5a	Permit Plan	SM/244/06
EPB2 Q5b	Site Condition Report	2153B/SCR
EPB2 Q5c	Non Technical Summary	2153B/NTS
EPB2 Q6	Risk Assessment	2153B/RA
EPB4 Qs 1 & App2 2	Waste Acceptance Procedures	2153B/WAP
EPB4 Q1c	Waste Recovery Plan	Fromebridge WRP vs 1.1 dated 7 April 2022
EPB4 Table 3b	Isopleth DEMP dated 11 July 2022	Isopleth DEMP dated 11 July 2022
EPB4 Table 3b	Noise Impact Assessment	R9573-1 Rev 1
EPB4 Qs 4 & App2 1-7	Environmental Setting and Site Design Report	2153B/ESSD

7 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, or you would like us to review a decision we have made, please let us know. More information on how to do this is available at: https://www.gov.uk/government/organisations/environment-agency/about/complaints-procedure.

Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.

8 Where to send your application

For how many copies to send see the guidance note on part F1.

Please send your filled in application form to:

For water discharges by email to PSC-WaterQuality@environment-agency.gov.uk

For waste and installations by email to PSC@environment-agency.gov.uk

Or

Permitting Support, NPS Sheffield
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

Do you want all information to be sent to you by email?

Please tick this box if you wish to have all communication about this application sent via email (we will use the details provided in part A) ☐

Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐

For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

No ☐

Yes ☐ Amount received

£

Notes:
1.This drawing should only be used for its original intended purpose.
2.Critical dimensions, levels, clearances etc. should be checked on site before work commences.
3.Dimensions in metres unless otherwise stated.
4.The client is reminded of their duties under the CDM 2015 regulations.
5.National Grid and OS Datum Newlyn used.

Permit boundary

PROPOSED SWALE. 6.5M WIDE. 0.8M DEEP

PROPOSED POND. 770M² AREA.

PROPOSED NEW SURFACE DRAINING TO EAST

PROPOSED SWALE. 6.5M WIDE. 0.8M DEEP

PROPOSED NEW SURFACE DRAINING TO EAST

PROPOSED SWALE. 6.5M WIDE. 0.8M DEEP

PROPOSED NEW SURFACE DRAINING TO SOUTHEAST

EXISTING POND RETAINED

EXISTING CABLES OVER

OVERHEAD CABLES CROSS THE PROPOSED WORKS AREA. THE CABLE OWNER SHOULD BE CONSULTED REGARDING THESE PROPOSALS. THESE ALSO CONSTITUTE A HAZARD DURING CONSTRUCTION PHASE AND THIS SHOULD BE CONSIDERED IN THE PLANNING AND EXECUTION OF THE WORKS.

AS EXISTING

SCALE BAR = 40M
0 10 20 30 40

Revision	Comment	Date

ALAN WADE SITE ENGINEERING LIMITED
LAND SURVEYS AND VOLUMETRIC CALCULATIONS FOR EARTHMOVING OPERATIONS
surveys@awsel.co.uk
REGISTERED IN ENGLAND AND WALES COMPANY NO. 3338810. REGISTERED OFFICE: THE MEWS, HOUNDS RD, CHIPPING SODBURY, BRISTOL BS37 6EE

Project
LAND AT FROMEBRIDGE
GLOUCESTERSHIRE

Client
SMITHS

Drawing Title
PERMIT PLAN

Drawn Date	Surveyed Date
29/09/21	–

Scale	
1:500	(AT A0)

Drawing Number	Rev
SM/244/06	–

Continuing Competence Certificate

This certificate confirms that

Peter Martin

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 31/01/2020

LIN	Landfill - Inert Waste
TMH	Treatment - Hazardous Waste
LS	Land Spreading

Expiry Date: 31/01/2022

Verification date: 30/01/2020

Authorised:

WAMITAB Chief Executive Officer

Learner ID: 8926

Certificate No.: 5159452

Date of Issue: 31/01/2020

CIWM Chief Executive Officer

The Chartered Institution of Wastes Management

00135727

Certificate No. CCC16093

Continuing Competence Certificate

This certificate confirms that

Peter John Martin

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 29/01/2018

LIN	Landfill - Inert Waste
TMH	Treatment - Hazardous Waste
LS	Land Spreading

Expiry Date: 29/01/2020

Awarded: 29/01/2018

Authorised

WAMITAB Chief Executive Officer

CIWM Chief Executive Officer

The Chartered Institution of Wastes Management

00088605

Certificate No. CCC10825

Continuing Competence Certificate

This certificate confirms that

Peter John Martin

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 08/02/2016

LIN	Landfill - Inert Waste
TMH	Treatment - Hazardous Waste
ELV	End-of-Life Vehicles

Awarded: 08/02/2016

Expiry Date: 08/02/2018

Authorised

WAMITAB Chief Executive Officer

CIWM Chief Executive Officer

The Chartered Institution of Wastes Management

00098467

WAMITAB

Waste Management Industry
Training and Advisory Board

The Chartered Institution
of Wastes Management

Certificate No. CCC809

Continuing Competence Certificate

This certificate confirms that
Peter John Martin

Has met the relevant requirements of the Continuing Competence scheme for the period between 1 March 2009 to 29 February 2012 for the following award(s):

TSTMH Hazardous transfer and treatment

Awarded: 28/10/2010

Authorised

WAMITAB Director General

CIWM Chief Executive Officer

This certificate needs to be renewed during the period between 1 March 2012 and 28 February 2014

WAMITAB. Waste Management Industry Training and Advisory Board. Peterbridge House, 3 The Lakes, Northampton, NN4 7HE
Telephone: 01604 231950 Fax: 01604 232457 Email: info.admin@wamitab.org.uk Website: www.wamitab.org.uk

WAMITAB

Waste Management Industry
Training and Advisory Board

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Telephone: 01604 231950 Fax: 01604 232457 Email: info.admin@wamitab.org.uk Website: www.wamitab.org.uk

WAMITAB

WASTE MANAGEMENT INDUSTRY TRAINING AND ADVISORY BOARD

CERTIFICATE No: 05527

CERTIFICATE OF TECHNICAL COMPETENCE

This Certificate confirms that

Peter John Martin

has demonstrated the standard of technical competence required for the management of a facility of the type set out below

Facility Type:

Level 4 in Waste Management Operations -

Managing Treatment Hazardous Waste (4TMH)

WAMITAB INCORPORATED 1989

Authorising Signatures:

Director General _____

Director _____

Date of issue: 17 October 2003

CIWM

Continuing Competence Certificate

This certificate confirms that

Peter Martin

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 04/02/2022

LIN	Landfill - Inert Waste
TMH	Treatment - Hazardous Waste

Expiry Date: 04/02/2024

Verification date: 24/01/2022

Authorised:

Professional Services Director

Learner ID: 8926

Certificate No.: 5192226

Date of Issue: 04/02/2022

CIWM Chief Executive Officer

The Chartered Institution of Wastes Management

Scan code on reverse to authenticate that this is a genuine paper

Date of birth information for Directors and Secretary.

Document Reference 2153B/DoB

Company Name: Smith's (Gloucester) Limited

	Name	Date of Birth	Postion
1	Rebecca PULLIN	[redacted]	Secretary/Director
2	Alan Robin SMITH		Director
3	Anne SMITH		Director
4	Helen LANE		Director
5	Paul SMITH		Director
6	Lisa SMITH		Director

Land at Fromebridge east of A38

Non-Technical Summary for Bespoke Environmental Permit Application for Deposit for Recovery Operation

Ref: 2153B/NTS

8th September 2022

Smiths (Gloucester) Limited wish to apply for a bespoke environmental permit for a Deposit for Recovery Operation at Land at Fromebridge east of A38, Fromebridge, Whitminster, Gloucestershire, GL2 7PF.

This document is the non-technical summary accompanying the environmental permit application.

The proposed site activities will be:

- R05: Recycling/reclamation of other inorganic materials
- R10: Land treatment resulting in benefit to agriculture
- R13: Temporary storage of wastes pending any other recovery operation

The recovery operation is for the use of waste to improve formerly quarried land which was not properly restored. The works will use 57,000 cubic metres material brought with an average depth of fill of 1m.

The Environment Agency (EA) have approved a Waste Recovery Plan (WRP) confirming that the operations constitute recovery to land, letter dated 8th April 2022 reference EPR/LB3103LG/A001.

The operations would normally qualify for standard rules SR2015 No.39 for the use of waste in a deposit for recovery operation given the quantities and types of waste involved however the proximity of some conservation interests mean that the operations do not qualify, these matters are dealt with in the risk assessment accompanying the application.

The application is accompanied by the application forms, a permit plan, competency certificates, a Summary of the Site Management System, Waste Acceptance Procedures (WAP), Risk Assessment, Site Condition Report, Environmental Site Setting and Design (ESSD), the approved WRP, Site Condition Report (SCR), a Noise Impact Assessment Plan and a Dust Emission Management Plan (DEMP).

Land at Fromebridge east of A38

Waste Acceptance Procedures

Ref: 2153B/WAP

29th July 2022

Notice

This report was produced by Land & Mineral Management for Smith's (Gloucester) Ltd for the specific purpose of providing Waste Acceptance Procedures for the recovery operation at Fromebridge east of A38.

This report may not be used by any person other than Smith's (Gloucester) Ltd without express permission. In any event, Land & Mineral Management accepts no liability for any costs, liabilities or losses arising as a result of the use of or reliance upon the contents of this report by any person other than Smith's (Gloucester) Ltd.

Document Control

Version	Date	Author / Checked by	Change Description
Version 1.0	29/07/2022	LB	Issue for Permit Application

Contact Details:

LBinnie
tel: 01285 656391
email: lb@landandmineral.co.uk
web: www.landandmineral.co.uk

Contents

1 Introduction

1.1 This document presents Waste Acceptance Criteria and Procedures for the Waste Recovery Operation at Land at Fromebridge east of A38 and is a site-specific addendum to the Environmental Management System submitted for the environmental permit application.

2 Waste Acceptance Criteria

2.1 The following Waste Acceptance Procedures will be operated at the proposed Fromebridge recovery operation with a staged approach to the acceptance of materials to ensure that only inert wastes from uncontaminated sites, which conform to the waste types as approved by the environmental permit, are accepted.

Pre Acceptance Assessment

2.2 All suppliers bringing material to Fromebridge will be made aware of the requirements of these Waste Acceptance Procedures and be required to provide appropriate information to Smiths (see para 2.3 below). Smith's Head Office will conduct an assessment as to the suitability of the arising waste material for its use in the recovery operations at the Fromebridge site.

Characterisation

2.3 Prior to permitting the delivery of the waste, the waste producer will be required to provide the operator with sufficient information for a basic characterisation of the waste. The information required, which the Waste Producer has the legal duty to accurately provide, includes:

- Waste Producer's name, address and contact details;
- Volume of waste;
- Address of the source of the waste;
- Description of waste which must include:
  - I. LOW Code;
  - II. Physical description (e.g. soil, brick etc.);
  - III. Process by which the waste was created (e.g. construction site) and confirmation that it does not come from a site at which contamination is known or suspected; and
  - IV. Confirmation that the waste has been classified as non-hazardous where there is a mirror entry code.

2.4 This information will be assessed by technically competent staff to establish if the waste is inert and compliant with those wastes permitted by the Environmental Permit.

Acceptance

2.5 The site will only receive waste which is compliant with inert WAC criteria and complies with the LOW codes in Table 1.

Table 1 – Waste Codes

Waste code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING AND PHYSICAL AND CHEMICAL TREATEMENT OF MINERALS
01 01	Wastes from mineral excavation
01 01 02	Wastes from mineral non-metalliferous excavation
01 04	Wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	Waste gravel and crushed rocks other than those containing dangerous substances
01 04 09	Waste sands and clays
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 05	Soil (including excavated soil from contaminated sites) stones and dredging spoil
17 05 04*	Soil and stones other than those containing dangerous substances
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION / INDUSTRIAL WASTE
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 12	Soil substitutes other than those containing dangerous substances only
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	Garden and park wastes (including cemetery waste)
20 02 02*	Soil and stones

2.6 Of the wastes listed in Table 1, in accordance with Clause 2.2.2 in Section 2 of the Annex to Council Decision 2003/33/EC, those with an asterisk by them do not require any accompanying testing if they comply with all the following:

- not included on Table 2 below and
- it is from a single source and
- has a LoW code is included in the Environmental Permit

2.7 Different wastes asterisked may be accepted together, provided they are from the same source.

2.8 All other wastes listed in Table 1 are subject to Waste Acceptance Criteria testing prior to acceptance, in order to characterise the waste and this should be provided by the Waste Producer.

2.9 No waste will be imported from any site where previous uses have included activities having a high ground contamination potential. Such sites include those listed in Table 2:

Table 2 - High Risk Sites

- Garages and fuel stations;
- Dry cleaners;
- Gas works, coke works and other coal carbonization sites;
- Current or former military land – except greenfield area remote from potential sources of contamination;
- Railway engineering works;
- Former railway land;
- Non-inert waste treatment, transfer or disposal sites;
- Timber treatment works;
- Former hospitals;
- Manufacturing works for vehicles, aircraft, coatings (paints and printing inks), cement, asphalt, pesticides, fertilizer, inorganic or organic chemicals, disinfectants or other manufacturing works with significant contamination potential;
- Iron or steel works;
- Mechanical engineering and ordnance works;
- Metals recycling sites;
- Oil or chemical storage sites;
- Textile works and dye works;
- Any other site with significant contamination potential;
- Any site known to have been subject to contamination remedial works.

2.10 Waste producers will be required to supply information on the previous use(s) of any site generating waste together with details of any treatment used to remove unsuitable waste. When testing is required and not provided, the waste will not be accepted at the site.

2.11 For those wastes that require, or may require testing, the limit values for the wastes to be accepted at the recovery site shall be in accordance with those set for inert waste in Section 2.1.2 of the Annex to Council Decision 2003/33 of December 2002, establishing criteria for the acceptance of waste at inert landfills as indicated in the table reproduced below (Table 3).

Table 3 – Limit values for Inert waste

Determinant	Leaching Limit Values L/S Ratio = 10 l/kg mg/kg dry substance	Limit Value mg/kg
Arsenic	0.5	
Barium	20	
Cadmium	0.04	
Chromium (total)	0.5	
Copper	2	
Mercury	0.01	
Molybdenum	0.5	
Nickel	0.4	
Lead	0.5	
Antimony	0.06	
Selenium	0.1	
Zinc	4	
Chloride	800	
Fluoride	10	
Sulphate	1000	
Phenol Index	1	
Dissolved Organic Carbon	500	
Total Dissolved Solids	4000	
Total Organic Carbon		30,000
BTEX*		6
PCBs**		1
Mineral Oil		500
Polyaromatic Hydrocarbons		100

2.12 Once Smiths are satisfied on the basis of the information provided to it that the waste to be imported to the Fromebridge recovery site is inert, it shall issue approval to the Waste Producer, allowing the waste to be recovered on the Fromebridge site.

Acceptance on Site

2.13 All Smiths drivers are trained in matters of waste acceptance so any material they can assess any material they collect it as to whether it is acceptable to be brought to the Fromebridge site or if it cannot and the material must not be brought to Fromebridge but managed elsewhere.

Documentation check

2.14 Documentation for each load is checked on arrival to ensure an appropriate waste transfer note has been correctly completed including having the correct LoW codes (as per table 1). If the documentation is correct then the vehicle is allowed to unload.

Visual Assessment

2.15 As the waste is unloaded there is a visual check and if any non-permitted material (i.e. material not listed in table 1). If non-permitted material is identified then the load is immediately isolated to avoid any cross contamination and reloaded onto the vehicle it arrived on to be removed to an appropriately permitted facility at the waste producer's / carrier's liability.

Recording of Rejected Loads

2.16 Details of rejected loads will be kept in the Site Diary and management will be informed at the end of each working day. These records will be reviewed and if a source is repeatedly resulting in non-conforming materials arriving at Fromebridge then further investigation of the source of the waste will take place. If appropriate, specific acceptance requirements will be issued to drivers to ensure that non-conforming materials are not brought onto site or materials will not be accepted onto site from that source.

2.17 Where appropriate the Environment Agency will be informed of a rejected load e.g. where hazardous wastes are encountered.

3 Information Records

3.1 The following will be recorded for each waste load:

- Date and time of delivery;
- Vehicle registration number;
- The LOW code;
- Origin of the waste;
- The haulier's Registration of Carriers registration number;
- A Waste Transfer Note showing the waste producer, a description of the amount and the type of waste, LOW code, waste haulier and waste collection point; and
- A record of any refused waste.

3.2 The Site records will be made immediately available for inspection by the Environment Agency. Commercial information will be regarded as confidential. Within one month of the end of each quarter, details of the waste movements will be sent to the Environment Agency on the appropriate Environment Agency form. Monthly records will be kept for a period of at least six years.

3.3 The waste records are reviewed on a monthly basis to ensure that the permitted tonnage is not exceeded.

3.4 In addition to the general waste acceptance procedures outlined above, material will not be accepted onto site under the following circumstances:

- If there are extreme weather conditions, such as site flooding;
- Abnormal site conditions preventing normal working.

3.5 Details of such events will be recorded in the Site Diary.

Ref: 2153B/RA

Facility:	Waste Recovery Operation: Use of waste in a deposit for recovery operation involving construction, restoration or improvement of land
Permit No:	tbc
Operator:	Smiths (Gloucester) Limited
Location:	Land at Fromebridge east of A38, Fromebridge, Whitminster, Gloucestershire, GL2 7PF
Location of environmentally sensitive sites (km / m):	Greater than 500m (see below)
Risk assessment carried out by:	LJ Binnie
Date:	13-Jul-22

The scope of the permit is defined by the following risk criteria:

Parameter 1	Permitted activities - The storage and recovery of waste (R5, R10, R13)
Parameter 2	Permitted wastes - Non hazardous inert wastes as listed in the application
Parameter 3	Maximum quantity of waste shall be limited to 57,000 cubic metres
Parameter 4	The site is not within 500m of a European Site (candidate or Special Area of Conservation, proposed or Special Protection Area or Ramsar site) or a Site of Special Scientific Interest (SSSI); or 50 metres of a National Nature Reserve (NNR), Local Nature Reserves(LNR), Ancient woodland or Scheduled Ancient Monument.
Parameter 5	The site is within 50m of the River Frome Mainstream & Tributaries Key Wildlife Site.
Parameter 6	The site is within 250m of Great Crested Newts.
Parameter 7	The site is within 250m of habitat suitable for water voles.
Parameter 8	The site is within 50m of Coastal and Floodplain Grazing Marsh habitat.
Parameter 9	The activities are not located in groundwater Source Protection Zones 1 and 2 or within 250 metres of any well, spring or borehole used for the public or private supply of water for human consumption.
Parameter 10	There are no point source discharges to controlled waters or groundwater
Parameter 11	The activities are not within 10 metres of any watercourse
Parameter 12	No waste will be deposited into a water body or sub-water table
Parameter 13	The activities is not located on any historic, closed or operational landfills
Parameter 14	The activities are not in an air quality management area for PM10

Data and information				Judgement				Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Local human population.	Releases of particulate matter (dust) .	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Medium	Medium	**Medium**	Permitted waste types are mainly inert and have a low potential to produce bioaerosols. The activities may produce dust from movement of vehicles and tipping operations especially in dry and also windy weather.	Activities are not permitted within a specified air quality management area (AQMA) for particulate matter of 10 microns or less (PM10). Activities shall be managed and operated in accordance with a management system that includes measures to prevent and reduce risk of dust being produced and where it is produced from leaving the site boundaries. If required a particulate management plan will be prepared and the site will be operated in accordance with that document.	Low
Local human population.	Releases of particulate matter (dust) .	Nuisance - dust on cars, clothing etc.	Air transport then deposition.	Medium	Low	**Medium**	Permitted waste types are mainly inert. The activities may produce dust from movement of vehicles and tipping operations especially in dry and also windy weather.	Activities shall be managed and operated in accordance with a management system that includes measures to prevent and reduce risk of dust being produced and where it is produced from leaving the site boundaries. Rules can be invoked to require a particulate management plan.	Low
Local human population.	Litter.	Nuisance, loss of amenity and harm to animal health.	Air transport then deposition.	Low	Low	**Very low**	Waste types if compliant with the rules should have a low risk of litter from contraries in the waste.	There are rules in place to control waste acceptance. The management system should have procedures to remove and contain any litter to prevent it being deposited at the site or to leave the site boundaries. Rules can be invoked to require a litter management plan.	Very low
Local human population.	Mud and waste on road.	Nuisance, loss of amenity, road traffic accidents.	Tracked on tyres of vehicles entering and leaving the site and from loads which are not properly contained.	Medium	Medium	**Medium**	Waste types are typically ones that will produce mud especially during wet weather.	The management system should contain procedures to minimise the risk of mud and waste being tracked out onto the highway. This may include wheel-cleaning facilities where appropriate. All vehicles should have adequate containment such as sheeting to prevent waste spillage.	Low

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Local human population .	Odour .	Nuisance, loss of amenity.	Air transport.	Very low	Very low	**Very low**	Permitted waste types are mainly inert and therefore should not be odorous.	The management system should contain procedures to prevent non-permitted wastes being deposited at site and to deal with rogue loads if they do occur. There is a dormant Rule that can be utilised if odour should be a problem.	Very Low
Local human population.	Noise and vibration.	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Medium	Medium	**Medium**	Local residents often sensitive to noise and vibration but there is usually low potential for exposure.	Noise and vibration shall be minimised and not cause nuisance, a noise impact assessment has been undertaken confirming a low impact from the operations. A noise and vibration management plan will be required if noise becomes a problem.	Low
Local human population.	Scavenging animals and scavenging birds.	Harm to human health from waste carried off site and faeces. Nuisance and loss of amenity .	Air transport and over land.	Low	Low	**Very low**	Wastes are limited to mainly inert wastes that are not normally attractive to animals and birds.	Risk limited by permitted waste types and good onsite management practices detailed in management system of non-conforming wastes.	Very low
Local human population and local environment.	Pests (e.g.) flies.	Harm to human health. Nuisance, loss of amenity.	Air transport and overland.	Low	Medium	**Medium**	Wastes are limited to mainly inert wastes that are not normally likely to encourage pest infestations.	Risk limited by permitted waste types and good onsite management practices detailed in managment system of non-conforming wastes.	Low

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Local human population and local environment.	Flooding of site.	If waste contaminated water is washed off site it may contaminate buildings, gardens, watercourses and natural habitats.	Flood waters .	Low	Medium	**Medium**	Permitted waste types are mainly inert so any waste washed off site will add to the volume of local post-flood clean up workload rather than the hazard. However they may cause increased siltation and need for dredging in water courses. Increased suspended solids.	Activities are not permitted within 10 metres of a watercourse or to be deposited sub-water table. The written management system should identify and minimise risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances.	Low
Local human population and /or livestock gaining unauthorised access to the waste operation.	All on-site hazards, wastes, machinery and vehicles.	Bodily injury.	Direct physical contact .	Low	High	**Medium**	Permitted waste types are inert therefore only a low risk from the actual waste. However there could be stockpiles that people could climb or void spaces that people could fall into and wastes have a higher risk in wet conditions where deep mud could form.	The written management system should identify and minimise risks from unauthorised access and site security measures identified to prevent such access.	Low
Local human population and the environment.	Arson and/ or vandalism causing the release of polluting materials to air (smoke or fumes) and firewater or spillage of polluting liquids to water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/ vandals. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from and via surface water drains and ditches.	Low	Medium	**Low**	Permitted waste types are inert so very low-risk of combustion. Site machinery and fuels and oils are more of a risk but quantities would typically be low.	The written management system should identify and minimise risks from unauthorised access and site security measures identified to prevent such access. The system should also describe how any polluting liquids or materials will be stored safely.	Very Low
Local human population and local environment.	Accidental fire causing realease of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from and via surface water drains and ditches.	Low	Medium	**Low**	Permitted waste types are mainly inert so very low-risk of combustion. Site machinery and fuels and oils are more of a risk but quantities would typically be low.	The written management system should identify and minimise risks.The system should describe how any polluting liquids or materials will be stored safely.	Very low

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Local human population and local environment.	Build up and emissions of gas from old waste deposits on the permitted site	Respiratory irritation, illness and nuisance to local population. Risk of explosion and injury to stafff and local population.	Gas migrating laterally through waste deposit and building up in ceratina areas.	Low	High	**Medium**	Old waste deposits may be disturbed by additional waste deposits. Trapping of gas, increased pressure may cause gas to build up. However distance criteria mean that the probability of exposure is low.	The distance criteria prohibits use on historic, closed or operational landfills.	Low
All surface waters close to and downstream of site.	Spillage of liquids, including oil.	Acute effects: fish and invertebrate kill .	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Low	Medium	**Medium**	Wastes are solid and mainly inert. Potential for spillage from any fuel and oil storage for machinery or directly from machinery operating on the site.	The Rules do not allow any point source discharges of contaminated water to controlled waters. Distance criteria of 10 metres from watercourse. All liquids shall be provided with secondary containment. The written management system should identify and minimise risks.The system should describe how any polluting liquids or materials will be stored safely and how machinery/plant will be maintained to prevent liquids from leaking.	Low
All surface waters close to and downstream of site.	Leachate from waste and contaminated rainwater run-off from waste e.g. suspended solids.	If waste contaminated water is washed off site it may contaminate watercourses and natural habitats leading to chronic effects: and deterioration of water quality.	Surface waters, leachate from infiltration through the waste	Medium	Medium	**Medium**	Permitted waste types are mainly inert so any waste washed off site will not be chemically hazardous however they may cause increased siltation and need for dredging in water courses. It will also reduce water quality and may smother fish breeding grounds and invertebrate populations. The waste will not produce liquid in itself but rainwater percolating through the waste will produce a waste leachate which should still be very low in contamination.	Activity not permitted within 10m of a watercourse. The Rules do not allow any point source discharges of contaminated water to controlled waters. Risk limited by waste acceptance rules and limits to permitted waste types. Good onsite management practices must be detailed in the management system for controlling and containing water and leachate generated on the site.	Low

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Groundwater	Leachate from waste and contaminated rainwater run-off from waste e.g. Suspended solids.	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through soil/groundwater then extraction at borehole.	Medium	Medium	**Medium**	Permitted waste types are mainly inert with limited uses of road planings and organic wastes so any waste should not contain hazardous substances or non-hazardous pollutants in quantities that pose a risk to groundwater.	The rules do not allow deposit in a groundwater Source Protection Zones 1 or 2 or if a source protection zone has not been defined then not within 250 metres of any well, spring or borehole used for the supply of water for human consumption. This includes private water supplies.The waste must also not be deposited in any controlled or surface waters or sub-water table. A mandatory waste acceptance procedure rule has been imposed to make sure a minimum standard is set. Mandatory operating techniques limit the use of specified non-inert wastes to surface uses. The management system should set out any additional stringent waste acceptance procedures to ensure only waste listed in the Rules are deposited on site. The procedures must also set out how to deal with rogue or non-conforming loads.	Low
River Frome Mainstream & Tributaries Key Wildlife Site	Dust, noise, contaminated run-off leachate etc.	Harm to protected site through contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	Low	Medium	**Medium**	Emissions to air may cause harm to and deterioration of site. Vehicles moving on and around site causing disturbance through noise. Potential for run-off and siltation etc.	The site shall operate to a management system and take appropriate measures which will ensure emissions of substances not controlled by emission limits shall not cause pollution. The measures will prevent or where that is not practicable, to minimise, those emissions. The River Frome is not linked to the site and separated from the site by intervening ground. The permitted activities pose a low risk to the broad sensitivity of species and habitats groups.	Low

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Protected Species				Low	Medium	**Medium**		The site shall operate to a management system and take appropriate measures which will ensure emissions of substances not controlled by emission limits shall not cause pollution. The measures will prevent or where that is not practicable, to minimise, those emissions. The permitted activities pose a low risk to the broad sensitivity of the habitats. The permitted activities pose a low risk to the broad sensitivity of species and habitats groups. Appropriate risk avoidance method statements will be applied (as required by planning consent)	
Coastal and Floodplain Grazing Marsh habitat	Dust, noise, contaminated run-off leachate etc.	Harm to protected site through contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	Low	Medium	**Medium**	Emissions to air may cause harm to and deterioration of site. Vehicles moving on and around site causing disturbance through noise. Potential for run-off and siltation etc.	The site shall operate to a management system and take appropriate measures which will ensure emissions of substances not controlled by emission limits shall not cause pollution. The measures will prevent or where that is not practicable, to minimise, those emissions. The permitted activities pose a low risk to the broad sensitivity of the habitats.	Low

Notes: Red triangle indicates comment containing supporting information
Yellow columns contain drop down menus that allow automatic evaluation of risk in green column

	Very low	**Low**	**Medium**	**High**
High	4	8	12	16
Medium	3	6	9	12
Low	2	4	6	8
Very low	1	2	3	4

Very low

Data and information				Judgement				Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).

Low
Medium
High

	Very low	Low	Medium	High
Very low	1	2	3	4
Low	2	4	6	8
Medium	3	6	9	12
High	4	8	12	16

Land at Fromebridge east of A38

Environmental Management System (Summary) for Deposit for Recovery Operation

Ref: 2153B/MS

11th July 2022

Notice

This report was produced by Land & Mineral Management for Smith's (Gloucester) Limited for the specific purpose of providing a summary of the management system for the deposit for recovery operation at land at Fromebridge east of A38.

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Document Control

Version	Date	Author / Checked by	Change Description
1.0	11/07/2022	LJB	Issue for permit application

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Web: www.landandmineral.co.uk

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Drawings

Reference	Title
	Permit Plan

Appendices

Appendix A	Smith's (Gloucester) Limited Environmental Policy 2022
Appendix B	Emergency Contacts
Appendix C	Inspection Sheets
Appendix D	Small Equipment and Stores
Appendix E	Waste Acceptance Procedures
Appendix F	Complaint Form

Foreword

Smith's (Gloucester) Limited (Smiths) have been contracted to undertake a deposit for recovery operation at Land at Fromebridge east of A38, Fromebridge, Whitminster,

The operation requires an environmental permit from the Environment Agency (EA).

This document provides a summary of Smiths environmental management system to accompany the permit application for the recovery operation.

1 Site and Operator Details

Site Location

1.1 The site is located at just east of A38 at Fromebridge, Whitminster, Gloucestershire, GL2 7PF.

The OS Grid Reference for the site is: SO 77073 06690

The OS Grid Reference for the site access: SO 76830 06683

Operator Details

1.2 The site operator and their registered office are detailed below:

Smiths (Gloucester) Ltd
Alkerton Court
Eastington
Stonehouse
Gloucestershire
GL10 3AQ
Telephone: 01453 822227

Environmental Policy

1.3 A copy of Smiths Environmental policy is provided in Appendix A.

Emergency Contacts

1.4 A full list of emergency contact details for the site is provided in Appendix B.

Fixed Site Infrastructure

1.5 The fixed site infrastructure is as follows:

Surfacing and Drainage

1.6 The site.

Access

1.7 The site is accessed from the A38 to the south west of the site.

Site Security and Boundaries

1.8 The site is kept secure with lockable gates at the site entrance.

Site Identification Board

1.9 A site identification board will be displayed and maintained at the site entrance where vehicles first approach the site. The board displays the following information:

- Site name and address;
- Permit holder's name;
- Permit number;
- Emergency contact details including telephone number;
- Statement that the site is licensed by the EA;
- EA contact numbers including incident hotline number 0300 807060; and
- Days and hours site is open to receive waste.

1.10 The sign will be maintained in a legible condition and updated as necessary.

Maintenance of Fixed Infrastructure

1.11 The site boundaries, gates, and site surfacing will be inspected on a regular basis by the site staff. Should any repairs be required they will be noted and actioned within five working days. Appendix C has examples of inspection sheets covering general site inspection and operative maintenance procedures.

Mobile Plant

1.12 The mobile plant and 'non fixed' infrastructure typically on the site comprises:

- Hydraulic Loading Shovel.

1.13 The site staff are responsible for ensuring all plant is maintained in a good working condition with regular inspections, testing and maintenance undertaken in accordance with manufacturer's specifications and company policy.

1.14 Small equipment and stores required for site operations are detailed in Appendix D.

2 Method of Operation

Description of Activities: Classification of the Waste Management Operations (Directive Codes)

2.1 The waste management activities fall into the following ' 'R' classifications:

- R05: Recycling/reclamation of other inorganic materials
- R10: Land treatment resulting in benefit to agriculture
- R13: Temporary storage of wastes pending any other recovery operation

Limits of Activities

2.2 The site operations are for the use and associated secure storage of specified inert wastes for the purposes of reclamation of an old mineral working and agricultural improvement of land.

Site Operation

General Management

2.3 The site will only open to receive waste when it is supervised by a member of staff who is trained in and familiar with the requirements of this Management System and the Environmental Permit. The site will be run by technically competent management with a Certificate of Technical Competence to an appropriate level. The attendance of the technically competent management will be recorded in the site diary. A copy of this Management System's accompanying documentation and the Environmental Permit will be kept available on site for reference and also available electronically.

Daily Initial Site Inspection

2.4 The site staff upon arriving at site at the start of each working shift will inspect the site to ensure that there have been no incidents. The inspection will check the site infrastructure is intact and free from any obstructions, including site boundaries and roadways. All waste storage areas will be checked to ensure that the material has not been disturbed. The mobile plant on site will also be checked to ensure it is operational.

2.5 Any defects identified by the daily initial site inspection will be rectified by the site staff immediately. Where it is not possible to rectify any defects immediately the site will not open unless normal operating conditions are unaffected i.e. operations can take place without any increased risk of pollution. The site operative will record details of the incident, detailing its

cause(s) and any remedial measures employed in the site diary. The site operative will report the matter, verbally, to management before the end of the working shift.

2.6 Upon completion of the daily initial site inspection confirming normal site operating conditions, with the completion of any necessary remedial actions, the site will accept waste.

2.7 On arrival at site vehicles will be checked in accordance with the site's waste acceptance procedures see Appendix E. Vehicles will then directed to unload at the relevant part of the site with the intention that there will be direct placement of material as much as possible.

2.8 A loading shovel will be typically used to move materials.

Operational Hours

2.9 The typical hours of operation for processing at the site are detailed below.

- 0800 Monday to 1800 Monday to Fridays
- 0800 to 1300 Saturdays

2.10 At the end of a working shift the site staff will ensure that all mobile plant will be inspected and the site left in a clean and tidy condition.

Weekly Inspection

2.11 A weekly site inspection will be carried by the site manager, or in his absence his appointed nominee, out to assess:

- The correct nature of wastes are being handled at the facility;
- The state of repair of the infrastructure including ground surfaces, gates, etc;
- Any evidence of scavenging animals or birds, pests or vermin;
- The satisfactory operation of the waste recording system; and
- The general state of condition of the site and its facilities.

Members of the Public

2.12 The site will not open to members of the public and any members of public on the site will be asked to leave immediately by site staff.

3 Environmental Control Measures

Dust

3.1 A Dust & Emission Management Plan (DEMP) by Isopeth dated 11th July accompanies this management system. The DEMP assessed a 'low risk for the nearest properties identifying a worst effect of 'slight adverse effect'. Table 4.2 of the DEMP outlines the mitigation measures that will be used to control dust which includes: vehicle site speed limit; sheeting of loads; minimising drop heights; good housekeeping measures; on-site sweeping; water suppression with mobile bowser; and, ceasing operations during high winds.

Noise

3.2 A noise assessment was undertaken, with a background noise survey undertaken and modelling. The modelling assessed the rating noise levels in accordance with BS4142 and concluded a low impact.

3.3 Whilst confirming noise is not an issue for the site mitigation measures will operate at the site to minimise noise. These include: all plant and equipment is regularly maintained to ensure optimum operating conditions; staff are responsible for notifying management when operating plant is causing unusual/excessive noise which will then been investigated with remedial action taken as appropriate; and, all plant and machinery is turn off when not in use rather than left idling.

3.4 Site management will record any issues with noise and if there is an on-going issue with substantiated noise complaints the operator shall prepare and implement a noise management plan.

Surface & Ground Waters

3.5 There are no surface waters across the site and the nearest surface water (ditch) is approximately 70m from the site boundary and the nearest main river is 170m away at it's closest point to the site boundary. The site is not located in a groundwater source protection area. To minimise risks to surface and ground waters the following actions are implemented:

- Operation of Waste Acceptance Procedures to ensure that only the correct permitted materials are accepted;
- No point source discharges to surface waters from the waste operations;

- On site fuelling and maintenance of plant and vehicles undertaken with due regard to best operating practise;
- Storage of polluting liquids such as oils and fuel restricted to appropriate locations; and,
- Provision of spill kits.

Windblown Litter

3.6 Due to the nature of the waste litter nuisance is considered to be a low risk. Throughout the working day the site staff will note the prevailing weather conditions, and in conditions with the potential to generate windblown litter patrols will be undertaken. Notwithstanding the weather conditions the site staff will maintain a visual assessment throughout the working day for windblown litter. The site will maintain good housekeeping practises and any windblown material will be cleared immediately including any windblown litter off site. All litter on the site will be picked up on a daily basis.

Odour

3.7 Due to the nature of the waste odour nuisance is considered to be a low risk. Site management will record any issues with odour and if there is an on-going issue with substantiated odour complaints the operator shall prepare and implement an odour management plan.

Pests & Vermin

3.8 Problems arising from scavenging animals or birds, pests and vermin are unlikely as food wastes are not brought to the site. To ensure there are no vermin problems the site manager will inspect the site regularly, at minimum daily basis, and, should any evidence of pests be found, the site manager will ensure appropriate action is taken immediately to eradicate them. A record of inspections is kept in the site diary. Any evidence of pests found by site operatives will be reported to the site manager for appropriate action. If necessary arrangements will be made for a pest control contractor to visit the site.

4 Accident Prevention and Management Plan

Emergency Procedures

Immediate Response

4.1 Where appropriate to the accident, immediate actions shall include:

- Raise alarm if human / environmental safety is at risk;
- Ensure all persons are evacuated from danger area; and
- Contact Emergency Services.

Secondary Actions

4.2 Potential events / failures that could lead to a human / environmental accident, their possible consequences and the actions to be taken to deal with the accident are outlined below in this section.

General Contingency Provisions

Shutdown

4.3 When conditions arise on site which prevent the normal working methods which give rise to pollution risks or emergency situations, then the relevant operations or the whole site (if appropriate) shall shutdown until normal working conditions can be resumed. Such conditions would include extreme weather conditions such as gale force winds or emergency situations.

4.4 Management will be informed immediately of any such incidents and, when appropriate, no wastes accepted onto site.

4.5 When the site is shutdown, where conditions permit, the site staff will ensure all waste is placed in storage mounds and left undisturbed and all mobile plant is secured.

Mobile Plant & Machinery Failure

4.6 In the event of breakdown or malfunction the machinery shall, where possible, be repaired on site and subject to a full inspection prior to commencing operation again. Spare parts can be readily obtained from suppliers within 24hours and if unavailable replacement plant can be sourced from other operations within 48 hours.

4.7 Where the plant failure means that waste cannot be moved on site, and there is no suitable storage area where materials can be deposited without a pollution risk, then no further waste

will be accepted on site until the plant is fully functional again or replacement plant has been brought to site.

Reporting and Investigation of Incident

4.8 Any emergency/accident/shutdown/plant failure should be immediately reported to the Site Manager. Full details of any incident which causes, or could cause, human damage or environmental pollution are recorded in the Site Diary. The details include date and time of accident, nature of accident, actions taken, involvement of any third parties, any remediation measures taken and results of investigation.

4.9 The Site Manager will investigate all incidents to establish the reasons and take any appropriate remediation actions. Where there is a repeated incident the site manager shall investigate the causes and take appropriate steps to prevent repeat instances including amendments to the management system if required.

4.10 A full record of the incident will be recorded in the Site Diary including details of investigations and any resultant remedial actions. Details of any incident shall be forwarded to the head office Management and EA office as appropriate.

Training

4.11 All Site Staff will be suitably trained in the operation of accident management provisions.

Emergency Equipment

4.12 All site vehicles and plant will carry spill kits, fire-fighting equipment and first aid kits. Protective clothing and a fresh water supply will be made available.

Environmental Accidents – Water & Land

Potential accidents

4.13 Potential accidents that could lead to pollution of water or land interests include:

- Fuel spillages, including damage to fuel tanks;
- Spillage of liquids;
- Spillage of waste outside site;
- Vandalism, leading to accident as outlined above; or
- Abnormal weather conditions.

Potential Consequences

4.14 The potential consequences of these accidents could see pollution of:

- Adjacent water bodies;
- Surrounding land; or
- Groundwater.

Avoidance Actions

4.15 Actions to avoid potential accidents include:

- Operation of waste acceptance procedures;
- Maintenance of site infrastructure
- Maintenance and inspection regime for all site plant and vehicles; and,
- Appropriate locations for repair and refuelling.

Minimising Impact

4.16 In response to an accident as outlined above, the following actions will be instigated by the Site Staff as appropriate to the incident:

- Isolate and remove hazardous waste as per with waste acceptance procedures;
- Repair damaged infrastructure;
- Isolate affected area from operations;
- Stop operations in affected area/site;
- Stop bringing material to affected area/site;
- Shut down of site;
- Immediate use of spill kits and subsequent appropriate disposal;
- Where possible stem or contain flow of liquid;
- Retrieve materials that have escaped from site; and,
- Inform the Site Management / EA.

4.17 The accident shall be fully recorded as outlined previously

Environmental Accidents – Fire

4.18 Fire is considered a low risk given the nature of the wastes and all on site plant is equipped with fire extinguishers and maintained in accordance with manufacturer's requirements to further minimise the risk of a fire incident.

5 Management, Site Staff and Training

Management

5.1 The management is provided from the operator's head office located less than a kilometre away at Eastington:

Smith's (Gloucester) Limited
Alkerton Court
Eastington
Stonehouse
Stroud
GL10 3AW
Tel: 01453 822227

5.2 The head office Management will undertake an annual audit of the site's performance against the Management System to ensure the site is operating effectively and compliant with any new regulatory or permit requirements. As a minimum there will be an annual review of the management system.

Technical Competency

5.3 The relevant technical competency is held by XXXX. Management will ensure that the Technical Competency is maintained in accordance with industry requirements. Suitably qualified consultancy staff will be brought in to manage the site if this is not the case.

Management Site

5.4 Direct responsibility for implementing the Management System is held by the Technically Competent Person (TCP, see para above). All site staff will report directly to the TCP.

5.5 The TCP will also be responsible for interim audits of the management system in response to changes to the site's operation, company changes, incident/accidents, complaints, and use of new plant or techniques. This will include reviewing as appropriate permit documentation such as inspection records, operational procedures and associated records including training.

Operational Staff

5.6 The site staff will be suitable trained in their roles and responsibilities including on-site training by the TCP, to ensure that they conduct their duties in compliance with the management system. After initial induction training further training will be provided in the form of up-dates with tool box talks. Full records of training will be kept by the operator.

6 Communications & Record Keeping

6.1 The Site Operator will ensure that this Management System and any updates or reviews are communicated to all Site Staff involved in the operation of the site. A full and up-to-date copy of the Management System, Environmental Permit and any associated documents e.g. the DEMP will be kept at the operators head offices and made available at all times.

6.2 Any sub-contractors involved in the operations will be supplied with a copy of the Management System which they must comply with as relevant to their work.

Waste Records

6.3 Records will be kept of the full details of all waste brought to the site. All waste transfer notes of the waste accepted at site will be retained at the Operator's head office.

Site Diary

6.4 The Site Diary will be maintained by Site Staff and kept at the site offices, recording:

- Site opening times;
- Staff on site;
- Daily weather conditions;
- Incidents / abnormal site conditions;
- Refused loads / unacceptable wastes;
- Details of regular daily and weekly site inspections including any consequent actions;
- Regulatory inspections, with the outcome and any actions required;
- Plant breakdown / failure;
- Site closure; and,
- Complaints and actions taken.

6.5 The site diary will be available for inspection to EA officers.

Other Record Keeping

6.6 In addition to the Site Diary the Site Staff / Site Operator will also keep:

- Permit;
- Management system and accompanying documentation;
- Details of plant maintenance and inspection records;
- Details of any waste removed from site;

- Complaint details including investigations and outcomes;
- Reviews, audits and amendments of management system;
- Records of training of staff; and
- EA Compliance Assessment Reports and actions.

6.7 All records associated with the site shall be kept for a minimum of six years in accordance with the requirements of the Environmental Permit.

Complaints

6.8 Any complaints received at the site will be immediately investigated by the Site Staff and / or the Site Operator. Where appropriate, remedial action will be taken.

6.9 The complaint will be reported to the Site Operator within 24 hours. The original complainant will be informed of the outcome of the investigation of the complaint and any actions taken within 5 workings day.

6.10 Details of each complaint, including the complainant's details, actions taken and outcomes, will be recorded on a complaint form, see Appendix F, which will form part of the records of the site diary.

Appendices

Appendix A: Smith's (Gloucester) Limited Environmental Policy 2022

SMITH'S (GLOUCESTER) LIMITED
The "Company"

ENVIRONMENTAL POLICY

We recognise that our activities have an impact on the environment and we are committed to minimising that impact by continually seeking to improve our environmental performance.

To achieve that we will pursue the following objectives:

- Complying with all relevant legislation, regulations, government guidance and industry codes of practice on environmental issues.
- Ensuring that all our staff have a good understanding of how our business affects the environment and what they are expected to do to minimise the impact of our operations.
- Where possible, influence designers and suppliers to provide solutions that make efficient use of energy and natural resources.
- Exhaust all possibilities of recyclable materials from our waste processing operations to divert material away from landfill.
- Source responsible tipping locations, specifically Energy from Waste facilities.
- Make efficient use of natural resources by minimising waste and conserving energy and water.
- Operate using a modern and efficient transport and plant fleet which have a reduced impact on the environment.
- Communication with our neighbours to ensure that our work causes minimum disturbance and disruption.
- Ensure that our suppliers are aware of this policy and encouraging them to apply environmental standards to their own work.
- To minimise our carbon foot print.

To achieve this we undertake to:

- Ensure that our vehicles, plant and machinery are regularly serviced and maintained.
- Calculate our total annual energy consumption through implementation of the Energy Saving Opportunity Scheme.

Signature:  ***Position: Managing Director*** ***Dated: 4th January 2022***

SMITH'S (GLOUCESTER) LIMITED
The "Company"

ENVIRONMENTAL POLICY

- Proactively address any energy saving opportunities and/or areas which require improvement.
- Educate our drivers and operators on efficient methods of driving.
- Monitor fuel usage in all vehicles.
- Continually invest in energy efficient equipment.
- Constantly review our waste processing operations, investing in new processes where appropriate.
- Organise training sessions for all members of staff.
- Separate office waste; recycling paper, cardboard, plastics, metals and glass.
- Ensure where demolition is undertaken, that material arising is segregated and recycled wherever possible.
- Wherever possible select suppliers who share our ideals.

Appendix B: Emergency Contacts

Land at Fromebridge	
Site Phone Number	
Emergency Services	999
Police HQ Incident Room	**101**
Local Police	Tel: 101
Doctor	
A&E	
NHS Direct	**0845 4647**
Environment Agency	24hour hot line – 03708 506 506 Local Office –
Electricity Emergency	
Water Services & Emergencies	
Local Authority	Stroud District Council 01453 766321
Company Contacts Out of Hours	
Operator (site contact)	
Head Office	01453 822227
Neighbour Contacts	
Fromebridge Service Station	01452 740753
Fromebridge Cottages	
Netherhills Cottage	

Appendix C: Inspection Sheets

Appendix D: Small Equipment and Stores

Appendix E: Waste Acceptance Procedures

Appendix F: Complaints Form

Complaints Form

Complaint Log Site:……

Date of Incident		Time of Incident		Weather conditions at time of incident	
Date of Complaint		Time of complaint			
Name		Address		Contact details	
Complaint					

Signed:…….

Details of Investigation				
Action Taken				
Future Actions				
Reporting[1]	Complainant	Site Staff	Management	NRW

Signed:……. (Site manager)

[1] Confirm date, verbal or written.

Land at Fromebridge east of A38

Site Condition Report

Ref: 2153B/SCR

August 2022

1.0 SITE DETAILS	
Name of the applicant	Smith's (Gloucester) Limited
Activity address	A38 at Fromebridge, Whitminster, Gloucestershire, GL2 7PG
National grid reference	OS GR 376980, 206720

Document reference and dates for Site Condition Report at permit application and surrender	2153B/SCR August 2022

Document references for site plans (including location and boundaries)	Permit Plan SM/244/06

Note:
In Part A of the application form you must give us details of the site's location and provide us with a site plan. We need a detailed site plan (or plans) showing:

- Site location, the area covered by the site condition report, and the location and nature of the activities and/or waste facilities on the site.
- Locations of receptors, sources of emissions/releases, and monitoring points.
- Site drainage.
- Site surfacing.

If this information is not shown on the site plan required by Part A of the application form then you should submit the additional plan or plans with this site condition report.

2.0 Condition of the land at permit issue	
Environmental setting including: • geology • hydrogeology • surface waters	See Environmental Setting and Site Design Document Ref: 2153B/ESSD
Pollution history including: • pollution incidents that may have affected land • historical land-uses and associated contaminants • any visual/olfactory evidence of existing contamination • evidence of damage to pollution prevention measures	• No known pollution incidents • Agricultural land previously quarried • No visual/olfactory contamination evident • No pollution prevention infrastructure on site
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	See Environmental Setting and Site Design Document Ref: 2153B/ESSD
Baseline soil and groundwater reference data	See Environmental Setting and Site Design Document Ref: 2153B/ESSD

Supporting information	See Environmental Setting and Site Design Document Ref: 2153B/ESSD

3.0 Permitted activities	
Permitted activities	Recovery to Land •R05: Recycling/reclamation of other inorganic materials •R10: Land treatment resulting in benefit to agriculture •R13: Temporary storage of wastes pending any other recovery operation
Non-permitted activities undertaken	None
Document references for: • plan showing activity layout; and • environmental risk assessment.	• Permit Plan SM/244/06 • 2153B/RA

Section 1- 3 completed August 2022

4.0 Changes to the activity	
Have there been any changes to the activity boundary?	If yes, provide a plan showing the changes to the activity boundary.
Have there been any changes to the permitted activities?	If yes, provide a description of the changes to the permitted activities
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	If yes, list of them
Checklist of supporting information	• Plan showing any changes to the boundary (where relevant) • Description of the changes to the permitted activities (where relevant) • List of 'dangerous substances' used/produced by the permitted activities that were not identified in the Application Site Condition Report (where relevant)

5.0 Measures taken to protect land	
Use records that you collected during the life of the permit to summarise whether pollution prevention measures worked. If you can't, you need to collect land and/or groundwater data to assess whether the land has deteriorated.	
Checklist of supporting information	• Inspection records and summary of findings of inspections for all pollution prevention measures • Records of maintenance, repair and replacement of pollution prevention measures

6.0 Pollution incidents that may have had an impact on land, and their remediation	
Summarise any pollution incidents that may have damaged the land. Describe how you investigated and remedied each one. If you can't, you need to collect land and /or groundwater reference data to assess whether the land has deteriorated while you've been there.	
Checklist of supporting information	• Records of pollution incidents that may have impacted on land • Records of their investigation and remediation

7.0 Soil gas and water quality monitoring (where undertaken)	
Provide details of any soil gas and/or water monitoring you did. Include a summary of the findings. Say whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how you investigated and remedied this.	
Checklist of supporting information	• **Description of soil gas and/or water monitoring undertaken** • **Monitoring results (including graphs)**

8.0 Decommissioning and removal of pollution risk

Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how you investigated and remedied this.

Checklist of supporting information	• **Site closure plan** • **List of potential sources of pollution risk** • **Investigation and remediation reports (where relevant)**

9.0 Reference data and remediation (where relevant)

Say whether you had to collect land and/or groundwater data. Or say that you didn't need to because the information from sections 3, 4, 5 and 6 of the Surrender Site Condition Report shows that the land has not deteriorated.

If you did collect land and/or groundwater reference data, summarise what this entailed, and what your data found. Say whether the data shows that the condition of the land has deteriorated, or whether the land at the site is in a "satisfactory state". If it isn't, summarise what you did to remedy this. Confirm that the land is now in a "satisfactory state" at surrender.

Checklist of supporting information	• Land and/or groundwater data collected at application (if collected) • Land and/or groundwater data collected at surrender (where needed) • Assessment of satisfactory state • Remediation and verification reports (where undertaken)

10.0 Statement of site condition

Using the information from sections 3 to 7, give a statement about the condition of the land at the site. This should confirm that:

- the permitted activities have stopped
- decommissioning is complete, and the pollution risk has been removed
- the land is in a satisfactory condition.

Land at Fromebridge east of A38

Environmental Setting and Site Design

Ref: 2153B/ESSD

8th September 2022

Notice

This report was produced by Land & Mineral Management for Smith's (Gloucester) Limited for the specific purpose of providing an Environmental Setting and Site Design for the proposed agricultural improvement works at the land at Frombridge, Gloucestershire.

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Document Control

Version	Date	Author / Checked by	Change Description
DRAFT	08/09/2022	RB / LJB	Issue for Permit Application

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Contents

Drawings

SM/244/02	Site Plan
SM/244/03	Location Plan – showing the recovery area
2153B/sk001	Sensitive Receptor Location Plan

Appendices

Appendix A	Waste Recovery Plan
Appendix B	Flood Risk Assessment by Amber Planning
Appendix C	Transport Assessment By IMA Planning
Appendix D	Noise Impact Assessment by 24Acoustics
Appendix E	Dust & Emission Management Plan by Isopleth

1 INTRODUCTION

Report Context

1.1 This Environmental Site Setting and Design (ESSD) report has been produced to support an application to the Environment Agency (Agency) for a bespoke, as conservation considerations exclude the use of a SR2015No.39, permit for a recovery activity within an old mineral excavation at Frombridge, Whitminster, Gloucester. The works will be undertaken Smith's (Gloucester) Limited.

1.2 The recovery operation is for the use of 57,000m^3 (85,500 tonnes based 1:1.5 m^3/t conversion factor) of waste to improve an area of formerly quarried land which was not properly restored and is not as productive as the surrounding land which was not quarried. The works have been granted planning permission by the local council, Stroud District Council planning permission reference S.20/2109/FUL dated 21st July 2021.

1.3 The Site has an approved Waste Recovery Plan (WRP) (Version 1.1, 4th January 2022 produced by Land and Mineral Management) a copy of which is contained in Appendix A.

Site Details

1.4 The site is at approximate OS GR 376980, 206720 and comprises a strip of land c.500m long by c.100-150m wide in a rural setting between the M5 motorway to the south-east just south of junction 13 and the A38 to the north-west with an access point onto the site. The River Frome is c.20m to the north and the village of Fromebridge 50m to the north-west.

1.5 The site had previously been quarried but not properly restored. Therefore, as a result of the former quarrying operations the ground is uneven and cannot be cultivated with normal farm machinery and can only be used for grazing during summer months due drainage issues.

1.6 The import and placement of suitable material will allow the c5.8ha site to be brought back into productive agricultural use.

Site Classification

1.7 The Site will be regulated by an Environmental Permit for waste recovery issued under the Environmental Permitting (England and Wales) Regulations 2016 (as amended).

Specified Waste Management Activities

1.8 The "Deposit for Recovery" activities that will be undertaken at the site are defined under Annex II of the Waste Framework Directive are:

- R05: Recycling/reclamation of other inorganic materials
- R10 – Land Treatment resulting in benefit to agriculture or ecological improvement.
- R13 - Storage of wastes pending any of the operations R1 to R12.

Application Boundary

1.9 The attached Alan Wade Site Engineering Limited drawing SM/244/03 shows the boundary of the proposed recovery activity area in red and from the aerial photograph below it can be seen it is within a predominantly rural area on the eastern side of the A38.

Figure 1 – Aerial Photograph of the site and surrounding area

Site Context

1.10 The Sensitive Receptors are illustrated on drawing No. 2153B/sk001 and Table 1 overleaf details relative distance from the site boundary.

Table 1 Identified Potentially Sensitive Receptors

Ref No.	Receptor Description	Category	Distance from Recovery Boundary	Direction
1	Fromebridge Cottages	Residential	0 m	North-west
2	Fromebridge Service Station	Retail	0 m	North-west
3	Netherhills Cottage	Residential	40 m	North
4	Drainage ditch network	Surface water	50m	North-east
5	River Frome	Surface water	200m	North-east
6	Cullimore Group concrete and aggregate	Industrial/ Commercial	300m	North-west
7	Apple Tree Park – caravan & camping site	Residential/ Recreational	500m	South-west

1.11 There are no current waste management activities on site but c.500m to the north-west (c.500m) is Frampton Landfill (EPR/BK31661P), which was issued a license 14th June 2022 to accept "10 T/D with a capacity of >25,000T excluding inert waste". Just north of the Frampton landfill is the smaller Perry Way landfill that was licensed on 20th June 2001 as a "A05: landfill taking non-biogradeable wastes" ref EA/EPR/LP3998CZ/A001.

1.12 A historical landfill known as Netherhill Landfill (reference 91/351,168) was located on the opposite side of the A38 c.25m to the south-east but no information regarding the operational dates or material deposited is available.

2 SOURCE

Historic Development

2.1 From a review of the available on line historic maps (https://maps.nls.uk) as shown below the site was in agricultural use on the earliest edition (Figure 1), although the 1902 edition (Figure 2) showed a small gravel pit in the central area

Figure 2 – 1879-1881 edition

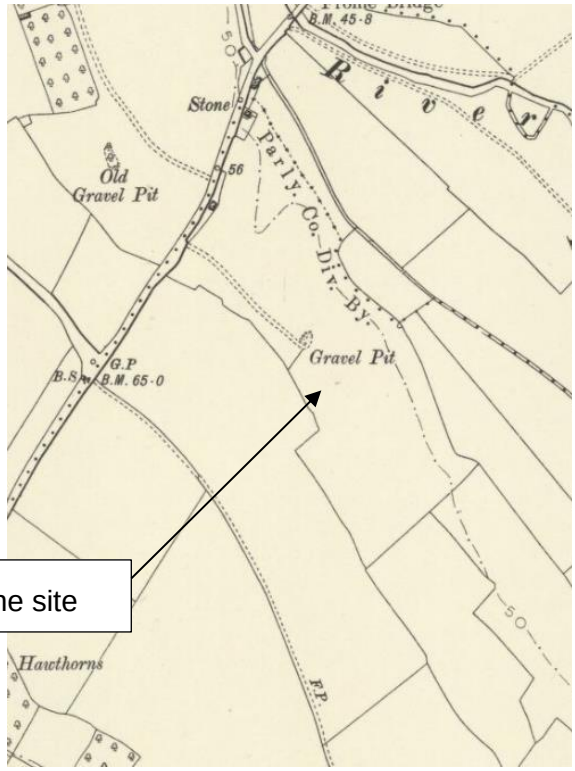


Figure 3 – 1901 edition

2.2 The 1955 edition (Figure 4, overleaf)) of the maps shows two small gravel pits on the site, which may contain a “Roman Burial Ground” but the field to the south of the site had been worked and was identified as a “Old Gravel Pit”. The 1967 edition no longer shows the gravel pit to the south or the two small pits on the site.

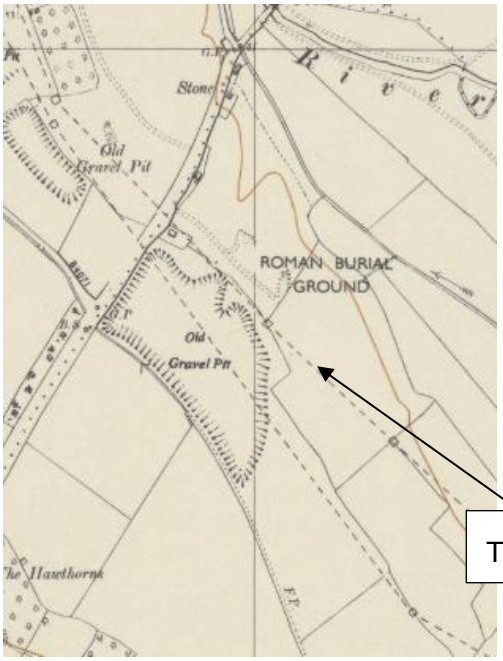


Figure 4 – 1955 edition

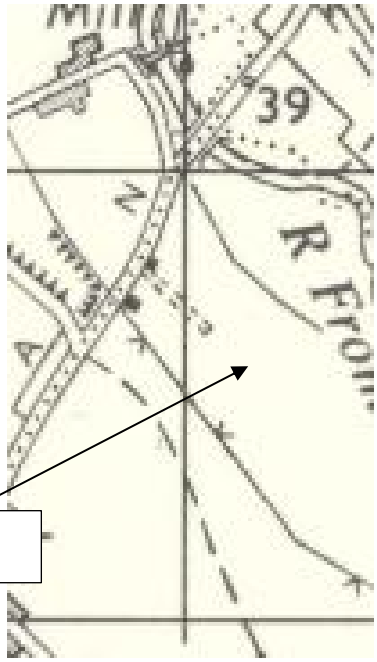


Figure 5 – 1967 edition

2.3 From a search of the Stroud District Council planning portal and website records four planning permissions relating to the site have been identified.

Table 2 Previous Planning Applications for Land at Fromebridge

Planning Ref	Proposed Development	Decision
G.2506	Winning of sand and gravel over an area of approximately five acres.	Permitted 28/01/58
S.19/0230/FUL	Creation of new agricultural access and associated access track	Permitted 29/03/20
S.19/1432/DISCO	Discharge of condition 5 (close up existing access) with application S.19/0230/FUL	Permitted 19/08/20
S.20/2109/FUL CURRENT APPLICATION	Agricultural improvement of old mineral excavation area with recontouring of land using imported sub-soils and soils	Permitted 21/07/21

Cultural & Natural Heritage

2.4 the Groundsure on-line data viewer (https://groundsure.io) the nearest Site of Special Scientific Interest (SSSI) is Frampton Pools c.1,250m to the north-west, which is of biological interest for its wetland habitats which are flooded former gravel pits and are locally important for wintering wildfowl.

2.5 Approximately 3km to the west is the Severn Estuary which is a SSSI, Ramsar site Special Area of Conservation (SPC) and Special Protection Area (SPA).

Proposed Development

2.6 This bespoke permit application proposes the importation and deposit of approximately 57,000m^3 of suitable selective wastes across the 5.8 ha across the recovery area of the formerly quarried land as shown in green on drg. No. SM/244/02 to facilitate the improvement of the land to improve its agricultural productivity.

Waste Acceptance Procedures

2.7 A range of inert wastes as detailed in the "Waste Suitable for Use" in the approved Waste Recovery Plan (ref LJB vs 1.1 04/01/2022), as listed in Table 3 below, will be imported as basic engineering fill to create the required ground profile.

Table 3 Suitable waste Types

EWC Code	Description
01 01 02	Wastes from mineral non-metalliferous excavation (overburden & interburden waste only)
01 04 08	Waste gravel and crushed rocks
01 04 09	Waste sand and clays
02 04 01	Soil from cleaning and washing beet
17 05 04	Soil and stones (restricted to topsoil, peat, subsoil and stone only)
19 12 12	Soil substitutes other than those containing dangerous substances only
20 02 02	Soils and stones (restricted to topsoil, peat, subsoil and stone only)

2.8 Waste Acceptance Procedures accompany the permit application, document reference 2153B/WAP. They provide for a staged approach to the acceptance of wastes, including provision for testing, and are designed to ensure only the correct waste types from uncontaminated sites suitable for use are accepted to site.

3 PATHWAY AND RECEPTORS

Geology

3.1 The on-line 1:50,000 BGS scale Digital Geological Map (www.gbs.ac.uk), as reproduced below, indicates that the majority of the site is underlain by River Terrace Deposits, sands and gravels, although this may all have been removed by the historic quarrying activities. The generic lithological description for River Terrace Deposits is:

> *"Sand and gravel, locally with lenses of silt, clay or peat."*

3.2 The bedrock is the Blue Lias Formation and Charmouth Mudstone Formation for which there is no combined Lexicon description but the individual components they are:

Blue Lias Formation:

> *"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"*

Charmouth Mudstone Formation:

> *Dark grey laminated shales, and dark, pale and bluish grey mudstones; locally concretionary and tabular limestone beds; abundant argillaceous limestone, phosphatic or ironstone (sideritic mudstone) nodules in some areas; organic-rich paper shales at some levels; finely sandy beds in lower part in some areas.*

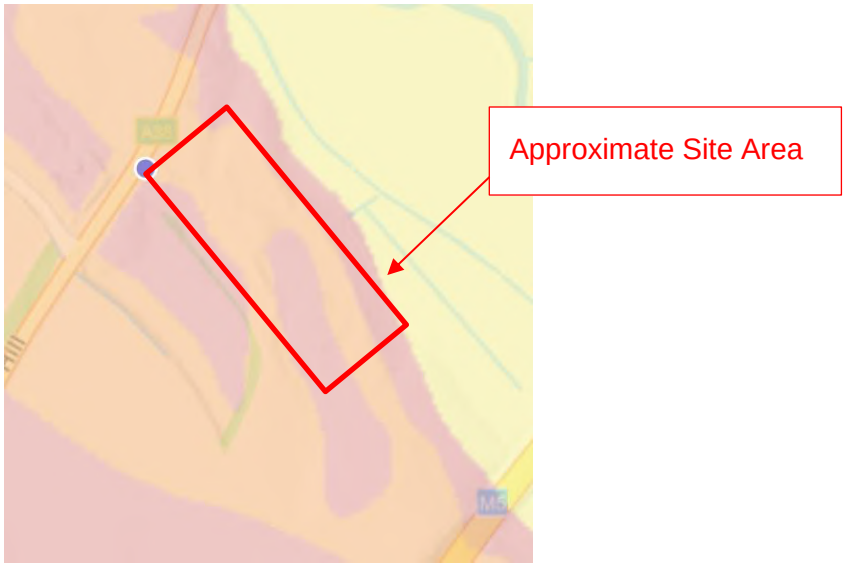


Figure 6 – BGS Combined Superficial and Bedrock Map

Hydrogeology

3.3 From the DEFRA Magic interactive web site (https://magic.defra.gov.uk) the superficial deposits are classified as a Secondary A aquifer, which is defined as:

> *"…permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers."*

3.4 The bedrock has been designated as a Secondary (undifferentiated) which are:

> *"…aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These have only a minor value."*

3.5 From the Groundsure on-line data viewer (https://groundsure.io) there are no potable groundwater abstractions or Source Protection Zones within 8km.

Hydrology

3.6 Based upon the Ordnance Survey Map the nearest water feature is a drainage ditch/irrigation channel c.50m to the north-east beyond which is the River Frome (c.150m), which in 2019 was given a MODERATE ecological status.

3.7 Based upon the Environment Agency online flood maps (https://flood-map-for-planning.service.gov.uk , as reproduced below, the north-eastern boundary of the site follows the western edge of the River Frome flood zone area.

Figure 6 – EA Flood Map

3.8 As can be seen from Environment Agency online surface water flood maps (check-long-term-flood-risk.service.gov.uk , as reproduced overleaf, parts of the site area are considered to be at

risk from surface water flooding, although as discussed in the Flood Risk Assessment (Appendix B) this is no longer an issue due the repair and maintenance of field drains by the applicant.

Figure 7 – EA Surface Water Flood Map

Man-made sub-surface pathways

3.9 During a site walk over a number of ditches were present on the site and it is understood the applicant has farmed the land for around 20 years in which time a number of field drains have been installed and/or repaired.

Receptors and compliance points

Groundwater

3.10 The proposed development involves infilling a former sand and gravel pit. The development is wholly above the water table and it is proposed to use inert waste to restore the land which will be subject to strict Waste Acceptance procedures.

3.11 Due to the inert nature of the waste to be used, the Groundwater Regulations are not considered to be applicable and therefore no groundwater monitoring is proposed.

Surface Water

3.12 For surface water run off as there is a drainage ditch/irrigation channel located c.20m from the north-eastern boundary this is the nearest receptor and as it connects directly in the River Frome, which flows into the River Severn it has the potential to rapidly transmit pollution.

3.13 Currently there has been no monitoring of the water quality and as the proposed fill will be inert waste it is not considered that it will be a source for any contamination and there are no requirements for a quantitative Hydrogeological Risk Assessment. The placement of the fill will not impact upon the water quality in the ditch/channel and no monitoring is proposed.

Landfill Gas

3.14 Due to the non-putrescible nature of the proposed waste types to be placed across the site of and its average thickness of c.1m across the area it is not considered necessary to identify potential residential landfill gas receptors. Therefore, no gas monitoring is proposed.

Human Health

3.15 With regard to the protection of human health the residents of Fromebridge Cottages, which are immediately adjacent to the north-western boundary are the nearest and most sensitive land use receptors.

3.16 As the proposal is only to import inert soils this material will not pose a risk to the occupiers of the properties as the fill will not contain any elevated levels of contamination and will be capped with a topsoil growth medium layer.

3.17 Other considerations are nuisance caused by the lorry movements to and from the whilst importing the soils plus noise and dust during the placement of the fill material.

3.18 Appendix C contains a Technical Note produced by IMA Transport Planning that details there will be around 10 loads a day, which will equate to one lorry per hour and given the A38 is a main road the increase in lorry movements is not considered to be significant.

3.19 Appendix D contains a Noise Impact Assessment by 24Acoustics which has undertaken noise monitoring and modelling with a B4142 assessment and concluded a low impact.

3.20 With regard to the control of dust Appendix E contains a copy of the Dust & Emissions Management Plan (DEMP) produced by Isopleth details the dust suppression procedures that will be employed on the site to minimise dust generation and the monitoring methodology.

4 POLLUTION CONTROL MEASURES

Site Engineering

4.1 The proposed activity will not require earthworks that will disturb or significantly re-profile the existing ground. The Operator will import and place on average 1m of suitable materials to reclaim the ground creating a ground profile that is suitable for standard agricultural plant to operate on over which a layer of topsoil as a growth medium will be placed. The waste mass will be deposited upon existing ground surface in accordance with the Site's approved WRP.

4.2 The Site is not a landfill but recovery operation and a geological barrier is not a requirement with the risk posed by the waste, noting the nature of waste with the associated WAP and specific site location such that no basal and side slope engineering or capping is required.

4.3 The works will be conducted with appropriate earthmoving equipment, primarily a bulldozer, and will be shaped into the appropriate profile as per the approved landform shown on plan SM/244/06. The proposed scheme is a small and straightforward which does not require complicated/technical structural works and a suitably experienced groundwork contractor will be sufficiently competent to undertake the works and a stability risk assessment is not deemed necessary.

4.4 The surface layer of topsoil will not be compacted as it is a growth medium but it will be seeded to help bind it prior to being put to agricultural use (e.g. growing crops or grazing).

Restoration and Surface Water management

4.5 The Alan Wade Site Engineering Ltd drawing SM/244/02 shows the proposed contours which is generally gradually slopes from south-west to north-east with a 0.8m deep swale along the lower boundary flowing a new 770m^3 pond that will be created on the site.

Post Closure Site Management (Aftercare)

4.6 After completion of the filling operations and site restoration, minimal site management is likely to be required because the nature of the 1m thick layer of compacted inert material means it is unlikely to be subject to significant settlement and consolidation. Also once the initial grass has establish itself with the surface run-off being controlled by swales and pond prior to the reclaimed land being brough back into productive agricultural use.

4.7 A topographic survey will be undertaken of the completed site to confirm the approved landform has been completed.

5 Monitoring

Noise Monitoring

5.1 A Noise Impact Assessment (NIA) has been undertaken assessing the operations in accordance w2ith BS4142 including modelling, document reference R9573-1 Rev A, and found the noise levels generated by the site to be acceptable. Therefore no noise monitoring is proposed.

Dust Monitoring

5.2 A Dust and Emissions Management Plan (DEMP) has been prepared for the site's operations, Isopleth DEMP vs 2.0 dated 11th July 2022. Dust monitoring will be undertaken in accordance with the provisions of the accompanying DEMP.

Weather

5.3 Filton is the nearest meteorological data station c.23 miles to the south-west of Fromebridge, which as expected confirmed it is predominantly from the south-west, which makes the drainage ditch and River Frome the identified receptors down the prevailing wind direction.

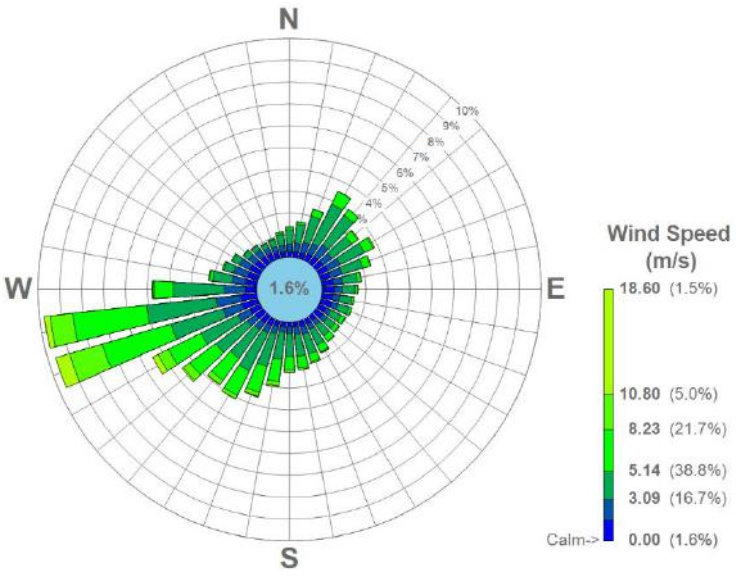


Figure 8 – Wind Rose showing Average wind strength and direction at Filton

5.4 Other than the monitoring of weather as provided for in the DEMP no formal monitoring of the weather is considered applicable to operations at the Site.

Gas Monitoring

5.5 The Site is only to receive inert waste subject to strict acceptance criteria and procedure. Landfill gas is not anticipated to occur within the Site with associated monitoring therefore not being necessary in this case and no gas monitoring infrastructure is proposed.

Water Monitoring

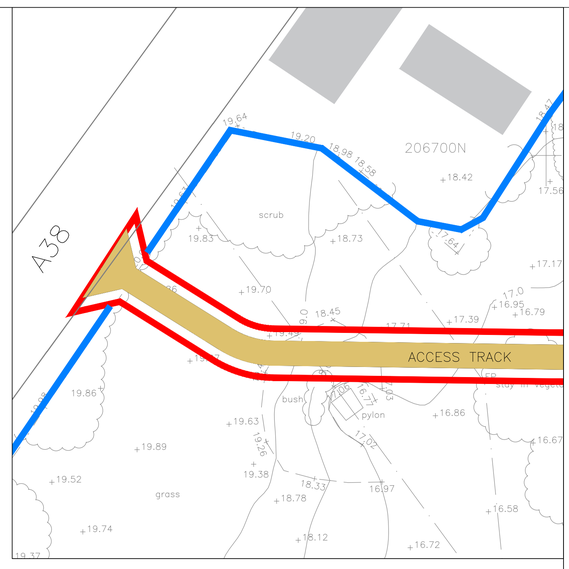
5.6 As noted in the previous paragraph, the Site is only to receive inert waste subject to strict acceptance criteria and procedures therefore the potential to produce a potentially harmful leachate will be negligible. There will be no point source discharges of trade effluent or sewage to groundwater or surface water associated with the restoration activities at the Site. Provision has been made in the planning consent for surface water runoff drainage upon completion of the works. Surface water will be collected in the swale along the north-eastern boundary and discharged into the new pond, which will prevent any runoff directly entering the existing surface water drainage network. The new pond will as other ponds on the site do, will retain the water due to the cohesive nature of the bedrock with only slow infiltration into the underlying bedrock Secondary undifferentiated aquifer. From the site setting it has been established there were no potable water abstractions or SPZ in the vicinity of the site and the Severn Estuary is approximately 3Km to the west.

5.7 Therefore, due to the absence of hydrogeological receptors and the proposal to only import inert soils with a low potential to create leachate it is not proposed to carry out groundwater or surface water monitoring.

6 Site Condition report

6.1 The site history, current use and surround area is detailed in this document, including geology, hydrogeology and hydrology. Although the site has been quarried it has not been properly restored. There is no known or on-site evidence of any historic incidents of contamination.

6.2 The EA Site Condition Report (SCR) template has been completed, sections 1-3 and accompanies this application.



INSET IS WEST END OF ACCESS ONTO A38

Notes:
1.This drawing should only be used for its original intended purpose.
2.Critical dimensions, levels, clearances etc. should be checked on site before work commences.
3.Dimensions in metres unless otherwise stated.
4.The client is reminded of their duties under the CDM 2015 regulations.
5.National Grid and OS Datum Newlyn used.

Application boundary

Other land under applicant's control

PROPOSED SWALE. 6.5M WIDE. 0.8M DEEP

PROPOSED POND. 770M² AREA.

PROPOSED NEW SURFACE DRAINING TO EAST

PROPOSED NEW SURFACE DRAINING TO SOUTHEAST

AS EXISTING

EXISTING POND RETAINED

EXISTING CABLES OVER

OVERHEAD CABLES CROSS THE PROPOSED WORKS AREA. THE CABLE OWNER SHOULD BE CONSULTED REGARDING THESE PROPOSALS. THESE ALSO CONSTITUTE A HAZARD DURING CONSTRUCTION PHASE AND THIS SHOULD BE CONSIDERED IN THE PLANNING AND EXECUTION OF THE WORKS.

SCALE BAR = 40M
0 10 20 30 40

Revision	Comment	Date

ALAN WADE SITE ENGINEERING LIMITED
LAND SURVEYS AND VOLUMETRIC CALCULATIONS FOR EARTHMOVING OPERATIONS
surveys@awsel.co.uk
REGISTERED IN ENGLAND AND WALES COMPANY NO. 3338810. REGISTERED OFFICE: THE MEWS, HOUNDS RD, CHIPPING SODBURY, BRISTOL BS37 6EE

Project
LAND AT FROMEBRIDGE
GLOUCESTERSHIRE

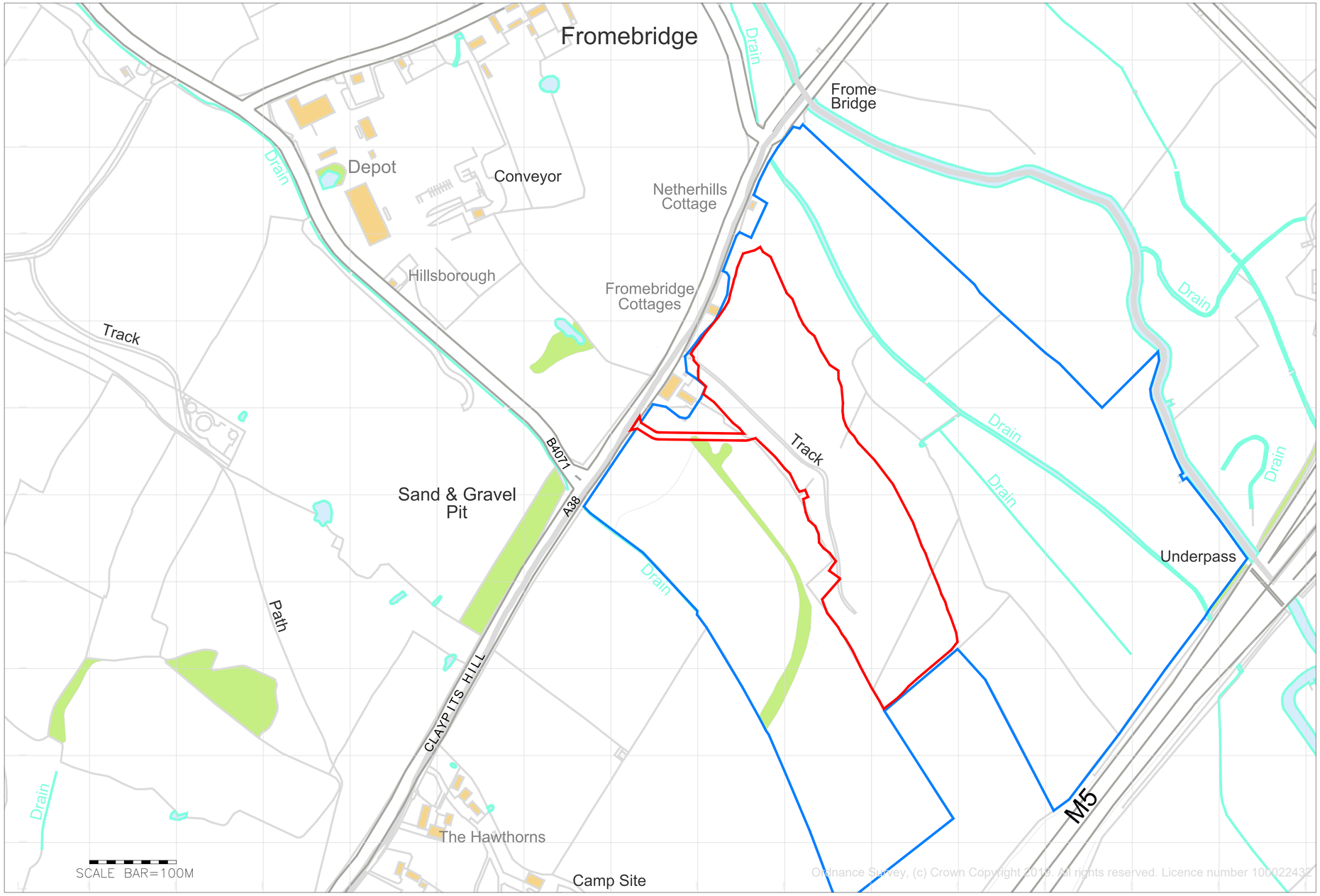
Client
SMITHS

Drawing Title
SITE PLAN

Drawn Date	Surveyed Date
01/10/20	–

Scale	
1:500	(AT A0)

Drawing Number	Rev
SM/244/02	–



Notes:
1.This drawing should only be used for its original intended purpose.
2.Dimensions in metres unless otherwise stated.
3.Grid lines drawn at 100m intervals.
4.This drawing was prepared for a planning application. It is not a construction issue drawing.
5.The client is reminded of their duties under the CDM 2015 regulations.
6.This drawing was prepared from information supplied by Land and Mineral Management.

Application boundary

Other land under applicant's control

N

Revision	Comment	Date

ALAN WADE SITE ENGINEERING LIMITED
LAND SURVEYS AND VOLUMETRIC CALCULATIONS FOR EARTHMOVING OPERATIONS
surveys@awsel.co.uk
REGISTERED IN ENGLAND AND WALES COMPANY NO. 3338010, REGISTERED OFFICE: THE MEWS, HOUNDS RD, CHIPPING SODBURY, BRISTOL BS37 6EE

Project
LAND AT FROMEBRIDGE
GLOUCESTERSHIRE

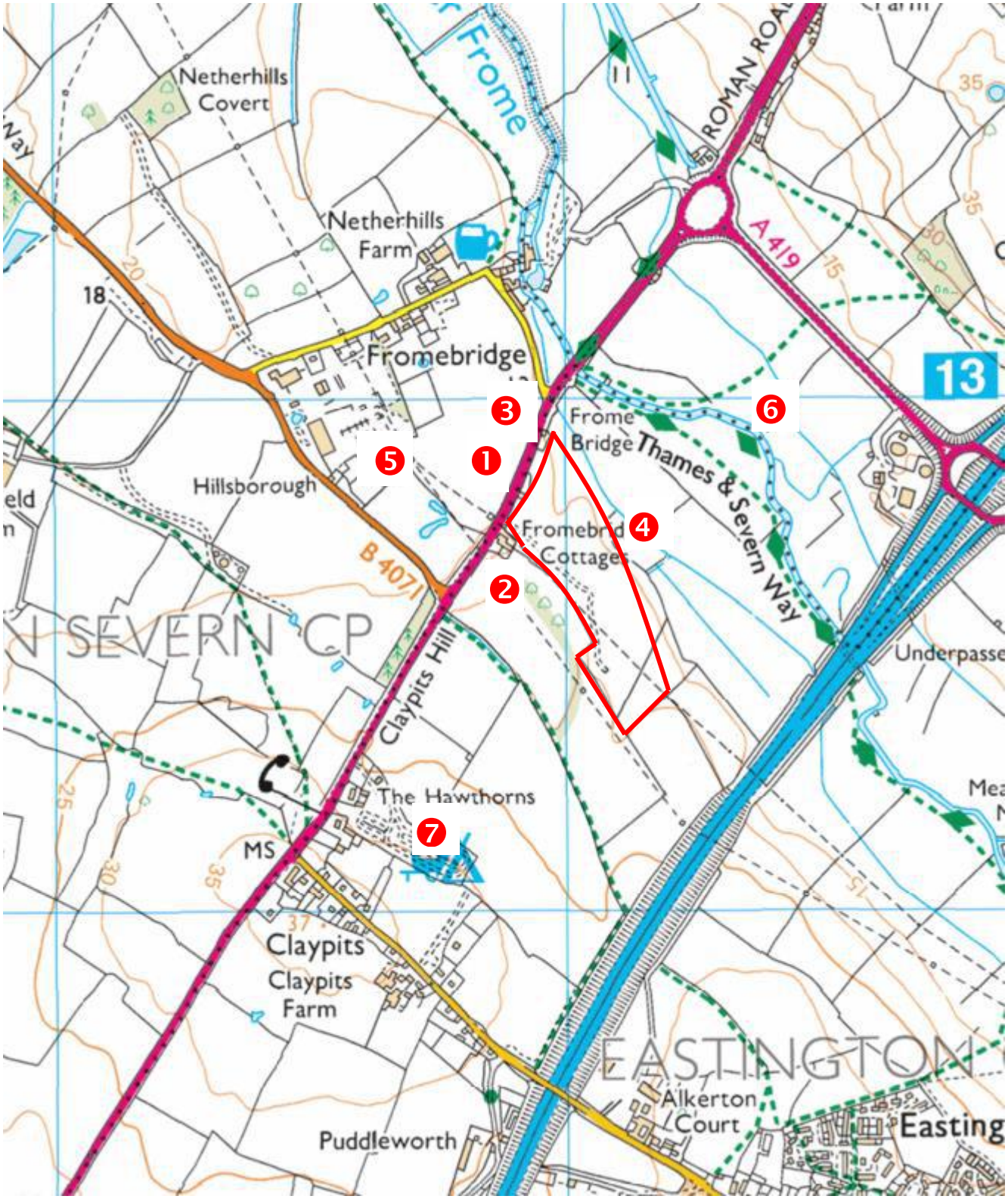
Client
SMITHS

Drawing Title
LOCATION PLAN

Drawn Date: 01/10/20
Surveyed Date: –

Scale: 1:2500 (AT A1)

Drawing Number: SM/244/03
Rev: –



❶

PROJECT	CLIENT	Date : 8th August 2022	
Fromebridge, Gloucester	Mr & Mrs A Smith	Scale : Not To Scale	
DRAWING TITLE		DRAWING No.	
Sensitive Receptor Location Plan		2153B/sk001	

Land & Mineral Management

Our ref: EPR/LB3103LG/A001
Date:08/04/2022

Dear Lucy Binnie,

Environmental Permitting – Recovery vs Disposal assessment of a waste recovery plan

Pre-application reference: EPR/LB3103LG/A001
Prospective applicant name: Mr and Mrs A. Smith
Site name and address: land at Fromebridge east of A38, Whitminster, Gloucestershire

You have submitted information to us that includes your assessment that the activity you wish to undertake at your site amounts to a recovery operation.

We have now considered your submission and we would like to advise you that:

We agree with your assessment that your activity is a recovery operation. This advice is based on the information you have provided to support that the waste is being used as a substitute for non-waste material plus details in relation to waste types and quantity and the purpose and nature of the proposal. If you change any of this information between now and when you submit an application, this advice may no longer apply.

Please note that the advice contained in this letter is <u>not</u> in itself a permitting decision or an indication that a permit will be granted or permit variation issued following submission of an application. Further assessment will take place during the permit determination stage and pre-application advice should be sought as required before preparing an application. See appendix for more information.

The following documents are considered to form the approved waste recovery plan:

Title	Reference (where applicable)	Date
Waste Recovery Plan	Fromebridge Agri Improv Waste Recovery Plan vs 1.1 7 Apr 2022	07/04/2022
Existing levels drawing	SM-244-04-A0 1 TO 500	07/02/2022
Cross section drawing	SM-244-05-A1 1 TO 500	07/02/2022
Final levels drawing	SM-244-06-A0 1 TO 500	07/02/2022

Additional comments:

- The Waste Recovery Plan indicates that the intention is to apply for a SR2015No39 permit. Note that the waste types included within the WRP are consistent with the standard rules set,

however the standard rules set includes restrictions on the waste codes which will need to be adhered to, to be compliant with the permit.

If you have any questions regarding our advice above please phone me or email mark.oxford@environment-agency.gov.uk

Yours sincerely

Mark Oxford

Permitting Officer

Appendix

Recovery vs Disposal advice

The Recovery vs Disposal (RvD) assessment of a waste recovery plan enables us to advise an applicant regarding whether or not we agree in principle that a proposed waste activity is a recovery operation to inform what type of permit would be required (recovery or disposal).

This assessment is discrete from the pre-application advice that would be provided to support the preparation of a permit application (see below) attracting a separate charge.

Our decision to grant a recovery permit or to issue a variation is subject to further assessment carried out during the permit determination stage. In the case of bespoke permit applications, this includes site-specific risk assessment based on the location of the site and technical requirements of the scheme.

For example:

- RvD assessment considers what waste types *may* be suitable, not what waste types *will* be deemed suitable following technical assessment of a permit application which would take into account the sensitivity of the site location and the proposed appropriate measures to be carried out. This is particularly relevant where non-inert wastes are to be deposited.

- RvD assessment considers whether it has been demonstrated that the scheme will be designed and constructed to be fit for purpose. Further technical assessment of the design and the construction methods and/or quality standards to be met may be carried out during permit determination.

If the permit that you are intending to apply for includes the application of waste to improve / enhance or maintain soil quality (landspreading), you must make this clear in your permit application and provide a benefit statement with your application that shows that the specific use of the waste is suitable and will provide no more soils and/or nutrients than the plants need. This is separate to the RvD assessment of the waste recovery plan.

If you plan to mix or blend waste or manufacture a soil substitute under the permit this should be made clear in the permit application as it is a separate activity that will need to be assessed during permit determination.

Pre-application advice on a recovery permit application

Prior to preparing and submitting an application for a recovery permit, you should review our deposit for recovery guidance (https://www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits) and consider seeking pre-application advice (https://www.gov.uk/government/publications/environmental-permit-pre-application-advice-form).

You should use the paid for enhanced pre-application advice service to discuss your proposal if:

- your site is in a sensitive location (https://www.gov.uk/guidance/landfill-operators-environmental-permits/plan-the-environmental-setting-of-your-site#sensitive-locations)
- hazardous waste is to be deposited as part of the scheme
- additional activities (such as landspreading or soil treatment) are intended to be included in the permit

Changes to your waste recovery plan

Before making changes to your proposal you should review our waste recovery plan guidance (https://www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits/waste-recovery-plans-and-deposit-for-recovery-permits).

Land at Fromebridge east of A38

Waste Recovery Plan

7th April 2022

Land & Mineral Management

Notice

This report was produced by Land & Mineral Management for Mr & Mrs A Smith for the specific purpose of providing a Waste Recovery Plan for the proposed agricultural improvement works at land at Fromebridge, Gloucestershire.

This report may not be used by any person other than Mr & Mrs A Smith without express permission. In any event, Land & Mineral Management accepts no liability for any costs, liabilities or losses arising as a result of the use of or reliance upon the contents of this report by any person other than Mr & Mrs A Smith.

Document Control

Version	Date	Author / Checked by	Change Description
1.0	04/01/2022	LJB/LL	Issue for EA
1.1	07.04.2022	LJB	Amends for EA

Contact Details:

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tel: 01285 656391 07795143457
email: lb@landandmineral.co.uk
Web: www.landandmineral.co.uk

Contents

Drawings

Reference	Title	Date
SM/244/04	Existing Contours	01/10/20
SM/244/06	Permit Plan	29/09/21
SM/244/05	Sections	28/09/21

Appendices

Appendix A	Planning Permission reference S.20/2109/FUL dated 21st July 2021
Appendix B	Land Values
Appendix C	Income Potential and Loan Costs

1 Introduction

Recovery Operation

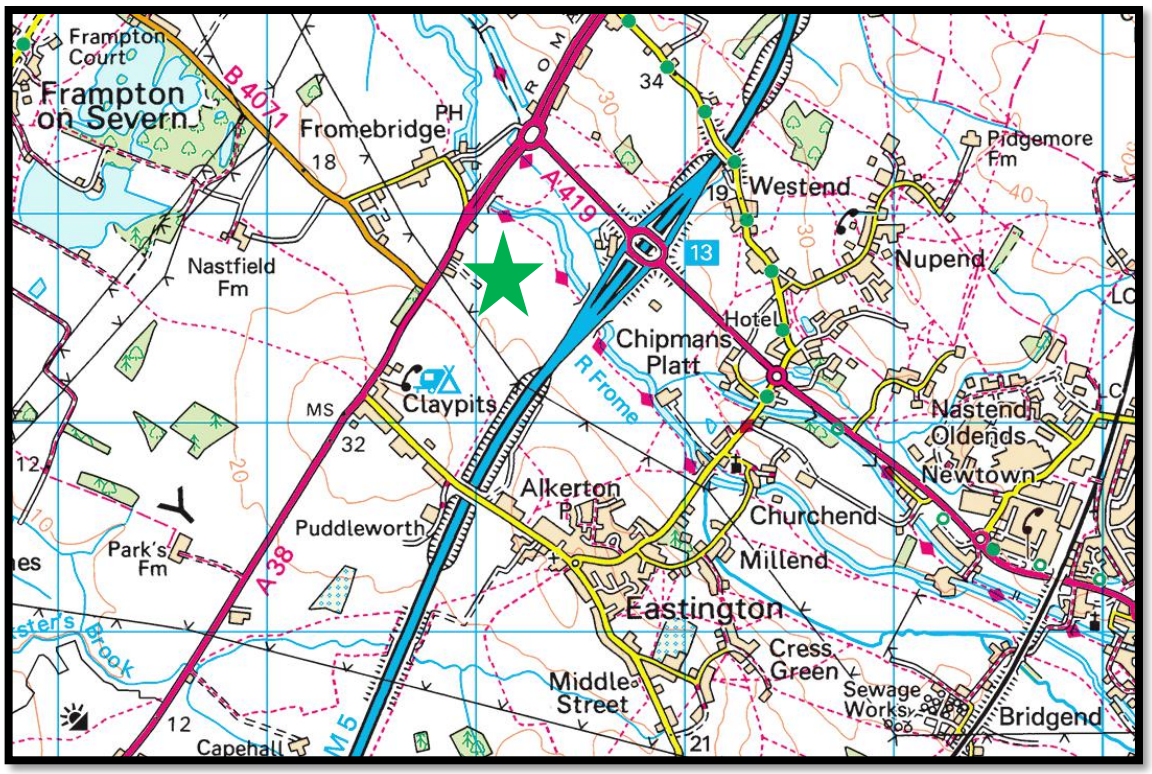
1.1 This document is a Waste Recovery Plan (WRP) and provides confirmation that the use of waste for the proposed agricultural land improvement works at land at Fromebridge, Whitminster, Gloucestershire constitutes a recovery operation with 'waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function' (EC Guidance on Directive 2008/98/ED on Waste).

1.2 The recovery operation is the proposed use of waste to improve an area of formerly quarried land which was not properly restored and is not as productive as the surrounding land which was not quarried. The works have been granted planning permission by the local council, permission reference S.20/2109/FUL dated 21st July 2021 which is reproduced in Appendix A.

The Site

1.3 The site lies in open countryside located in a strip of agricultural land between the A38 to the west and M5 to the east, found approximately half a kilometre from Junction 13 of the M5, as shown in Figure 1 below.

Figure 1: Site Location



Environmental Permitting Requirements for Recovery Operation

1.4 To undertake the necessary works by recovering inert waste in an environmentally sound manner requires an environmental permit. The permitting procedure requires an application for a permit to be accompanied by a WRP which confirms that the operation meet the waste recovery test.

1.5 The works would normally qualify for Standard rules permit SR2015 No.39 for the 'Use of waste in a deposit for recovery operation (Construction, reclamation, restoration or improvement of land other than by mobile plant)' as only a limited volume of material is required, below the 60,000cube limit in SR2015No39. However a nature and heritage conservation screening exercise indicated conservation interests within the vicinity of the site and as such the operation does not qualify for Standard Rule 2015 No 39 permit and a bespoke permit must be applied for.

Guidance

1.6 This WRP has been prepared in line with the guidance provided on the gov.uk website (at time of writing), Waste Recovery Plans and Permits (https://www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits/waste-recovery-plans-and-deposit-for-recovery-permits) (the guidance). This WRP explains how the waste will serve a 'useful purpose' and replace other materials as part of a recovery operation addressing the relevant parts of that guidance and includes plans and cross-sections of the works area. The WRP confirms there is a legal obligation for the works and provides commentary on financial aspects. The WRP confirms that the operation is a recovery activity.

2 Waste Recovery

Purpose of the Works

2.1 Mr & Mrs Smith have an extensive farming operation with land in the Severn Vale and around Nympsfield. They took on the tenancy for the land at Fromebridge in 2005 and have now acquired full ownership. The land in question, reflecting the previous quarry operations, comprises of a field area of uneven, rough grass land with a thin veneer of poor quality soils, see photograph 1 below. The site area is 5.8ha.

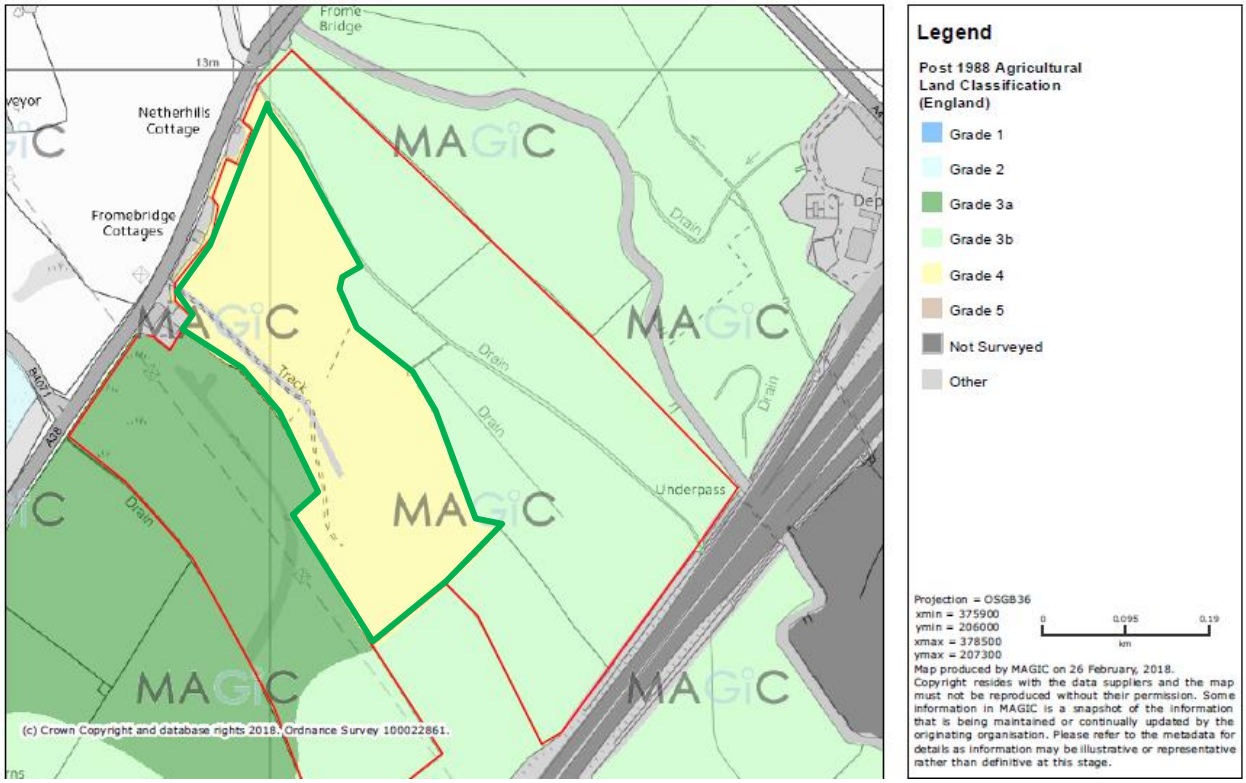
2.2 The ground conditions of the site, due to former quarry operations, mean it is not possible to cultivate the land with normal farm machinery. The land is only suitable as pasture to graze stock and cannot be used be all year round as there are significant issues with surface water drainage, again due to historic quarry use. The land does not compare favourably to the surrounding fields which have not been quarried and as such are good quality agricultural land suitable for a wide range of arable cropping. The Smiths wish to restore the ground to its previous agricultural condition and indeed are aiming for organic status for the farming operations.

Photograph 1: View over Site

2.3 Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on agricultural use. The Agricultural Land Classification map for this area, see figure 2, has the area for the recovery

operations outlined in green (see plan SM/244/06 for detailed site boundary). This confirms the site as grade 4 lying immediately adjacent to good quality agricultural land, grade 3a (the previously unquarried land). Grade 4 land is poor quality agricultural land with severe limitations which significantly restrict the range of crops and/or level of yields. By comparison grade 3 land has only moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield, and is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land).

Figure 2: Agricultural Land Classification



Amount of Waste

2.4 The existing site levels are shown on drawing no. SM/244/04. The proposed landform, as approved by the planning permission, is shown on drawing no SM/244/02 with cross sections on drawing no. SM/244/06. The total volume of materials required to be brought to the site is 57,000 cubic metres (85,500 tonnes at a conversion of 1 cubic metre to 1.5 tonnes although this may vary with different materials). All existing surface materials will be retained for use in the site works. The average depth of fill across the site is approximately 1m.

2.5 The amount of waste use is the minimum based achieving an appropriate topography fit for purpose marrying in with the adjacent ground with a suitable surface for modern agricultural equipment.

Wastes Suitable for Use

2.6 A range of inert wastes are suitable to provide the function of a basic engineered fill with the main qualification being that no liquids or powders will be used. Essentially the materials that are required are those which can be 'modelled' to a suitable landform. Additionally any materials received which are suitable for use as topsoil will be separately retained and used in the final surface layers. The proposed waste types presented in table 1 below comply with the waste types listed in the current guidance[1] and are wastes that will be physically, chemically and biologically suitable, as determined through the Permitting process and agreement on Waste Acceptance (WAP) measures. The waste types listed are inherently low risk.

Table 1: Proposed Waste Types, List of Waste Codes

EWC Code	Description
01 01 02	Wastes from mineral non-metalliferous excavation (overburden & interburden waste only)
01 04 08	Waste gravel and crushed rocks
01 04 09	Waste sand and clays
02 04 01	Soil from cleaning and washing beet
17 05 04	Soil and stones (restricted to topsoil, peat, subsoil and stone only)
19 12 12	Soil substitutes other than those containing dangerous substances only
20 02 02	Soils and stones (restricted to topsoil, peat, subsoil and stone only)

2.7 Strict waste acceptance procedures (WAP) will be adhered to and will be provided for in a management system which will control operations to ensure they take place in a manner designed to protect the environment. The WAP will ensure no waste from sites which have any indication of being contaminated or that contain dangerous substances will be accepted.

[1] https://www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits/check-if-your-waste-is-suitable-for-deposit-for-recovery#soil-and-stones-topsoil-peat-subsoil-and-stones-waste-code-20-02-02

Substitution

2.8 In terms of suitable non-waste material that could be used in substitute for waste materials the works could be achieved using a material similar in nature i.e. a low grade fill material suitable to be engineered. This could be either a primary aggregate or clay, sourced as a primary land won mineral. The use of waste for the works performs the same function natural mineral materials whilst serving a useful purpose by avoiding the need to use natural resources.

Operation to Appropriate Standard

2.9 The works will comply with planning condition requirements and also the environmental permit conditions, including the operation of a full management system and strict waste acceptance procedures. The site will be run by experienced contractors with an appropriately qualified 'competent person' to manage the site operations and ensure compliance with the

2.10 The material brought to site will be checked in accordance with the strict waste acceptance procedures to ensure no contaminated waste is brought to site and so avoiding any pollution risk. The material will be then placed on the prepared excavated ground using earthmoving equipment, primarily bulldozers, and will be shaped into the appropriate profile as per the approved landform shown on plan SM/244/06. The proposed scheme is a small and straightforward which does not require complicated/technical structural works and a suitably experienced groundwork contractor will be sufficiently competent to undertake the works.

2.11 Upon completion of the works a topographical survey will be undertaken to ensure the site is restored in accordance with the approved landform.

3 Legal Obligation and Financial Considerations

Legal Obligation

3.1 The works at Fromebridge are not a mandatory requirement of a regulator although they are in essence the restoration of a former quarry which was poorly restored as the planning permission at the time did not contain full restoration and aftercare conditions modern planning permissions do.

3.2 Stroud District Council in granting planning permission acknowledged that the scheme would improve remediation of the previous gravel extraction and improve the agricultural quality of the land. Had the original permission for quarrying been a more contemporary permission it is contended that this scheme would have formed part of grant of planning permission for quarrying as the site's restoration obligations to ensure the site was returned to its original agricultural standard. In effect the new planning permission, S.20/2109/FUL, under which the recovery operations will take place are providing for the appropriate site restoration after quarrying.

Financial Gain

3.3 Guidance requires a WRP to demonstrate either that there would be financial gain to undertake the works without the use of waste material i.e. that it is financially viable to undertake the works without using waste or that 'otherwise worthwhile' benefits would accrue from the works.

Financial Benefits

3.4 The proposals provide a significant improvement to the land which will allow wide range of productive agricultural operations to take place, the same as takes place on the surrounding land which has not been quarried. The land currently has minimal value as occasional rough grazing land. Appendix B has details of the value of the land as it stands at present reflecting its constrained nature with minimal financial value (income) from the land in its current state. Appendix B also provides details of the land value when it is in an improved condition able to sustain a wide range of crops. The land is current valued at £45,500 but the restored ground able to sustain full agricultural cropping is estimated at £188,500.

Financials on 'Non Waste' Alternative

3.5 An alternative option to undertake the works without using waste is to use a basic aggregate material suitable as an engineered fill. The costs of the non-waste works would be funded by a

loan which would be repaid by the additional income which would accrue from the agricultural cropping that would be possible from the land. Figures which cost the works and details of a loan option to substantiate this are provided in Appendix C.

Overall Financial Benefits with Non Waste

3.6 The non-waste alternative option outlined is financially viable providing direct benefits with an increased income from the land and also an indirect benefit with the increase to the land value itself.

3.7 The financial payback on the works are long term but this is considered commensurate with the nature of farming. The figures in Appendix C demonstrate that the increased income initially can repay a loan but not withstanding this the Smiths have sufficient financial resources to cover the works themselves.

4 Concluding

4.1 The WRP confirms that the proposed recovery operation provides clear benefits to the proposed works at Fromebridge which will fully restore an old quarry area and allow the land to return to productive agricultural use. The scheme has been designed using the minimum amount of material to do this utilising suitable waste types with the works will be conducted to an appropriate standard.

4.2 This WRP has demonstrated that a non-waste option for the works is a viable option. The proposed works are in line with the EA guidance and qualify as a recovery operation.

Appendices

Appendix A: Planning Permission reference S.20/2109/FUL dated 21st July 2021

Stroud District Council

Town and Country Planning Act, 1990 (As amended)

Planning Permission

Under the above Act the District Council as Local Planning Authority HEREBY GRANTS Planning Permission for the development described below in accordance with the submitted application and accompanying plan(s) but subject to the conditions stated:

Agent:
Land & Mineral Management
Suite 1
82C Security House
Chesterton Lane
Cirencester
Gloucestershire
GL7 1Y

Applicant:
Mr A Smith
Alkerton Court
Alkerton
Eastington
Stonehouse
Gloucestershire
GL10 3AQ

Planning Ref:S.20/2109/FUL
Application Date: 06/10/2020
Dated: 21/07/2021

Description of Land
Land At, Fromebridge, Whitminster, Gloucestershire

Description of Development
Agricultural Improvement of old mineral excavation area with recontouring of land using imported subsoils and soils.
Eastington Parish Council 377133 206593

Conditions attached to permission and reasons therefor:

1. The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

   Reason:
   To comply with the requirements of Section 91 of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.

2. The development hereby permitted shall be carried out in all respects in strict accordance with the approved plans listed below:

   SM/244/03 - Site Location Plan - Received 6.10.2020
   SM/244/04 - Level Survey - received 6.10.2020
   Preliminary Ecological Appraisal, by Wild Service, dated April 2019
   Great Crested Newt Surveys and Risk Avoidance Method Statement, by Wild Service, dated September 2020
   Flood Risk Assessment, by Amber Planning, dated September 2020
   Transport Assessment, by I M A transport planning, dated September 2020

   Reason:
   To ensure that the development is carried out in accordance with the approved plans and in the interests of good planning.

3. The development hereby permitted shall not commence until the existing vehicular access has been amended, constructed and completed in accordance with the submitted IMA Highways Technical note 1 and amended drawing (Drawing No. IMA-19-217- 104 submitted on 30 Apr 2021).

   Reason:
   In the interest of highway safety in accordance with paragraphs 102 and 108-111 of the NPPF and Policy CP13 of the Stroud District Local Plan 2015.

IMPORTANT NOTES –SEE OVERLEAF

Proper Officer of the Council
Duly Authorised in that behalf

4. No development shall begin until visibility splays are provided from a point 0.6m above carriageway level at the centre of the access to the application site and 2.4m back from the near side edge of the adjoining carriageway, (measuring perpendicularly), for a distance of 160m in each direction measured along the nearside edge of the adjoining carriageway. Nothing shall be planted, erected, and/or allowed to grow on the triangular area of the land formed which would obstruct the visibility described as such.

Reason:
In the interest of highway safety in accordance with paragraphs 102 and 108-111 of the NPPF and Policy CP13 of the Stroud District Local Plan 2015.

5. The development hereby permitted shall not begin until a remediation scheme has been submitted and approved by the Local Planning Authority. The scheme shall include how the remediation will be undertaken, what methods will be used and what is to be achieved. A clear end-point of the remediation should be stated, such as site contaminant levels or a risk management action, as well as how this will be validated. No deviation shall be made from this scheme without prior written approval from the Local Planning Authority.

No part of the development herby permitted shall be used for the growing of crops/ grazing of livestock until a verification report detailing the remediation works undertaken and quality assurance certificates to show that the works have been carried out in full accordance with the approved methodology has been submitted to, and approved by, the Local Planning Authority. Details of any post-remedial sampling and analysis to show that the site has reached the required contaminant levels shall be included, together with the necessary documentation detailing what waste materials have been removed from the site, prior to deposition.

Reason:
To protect the health of future users of the site from any possible effects of contaminated land in accordance with the guidance within the NPPF in particular, paragraph 178.

6. All works shall be carried out in full accordance with the recommendations contained in the Great Crested Newt Surveys and Risk Avoidance Method Statement, by Wild Service, dated September 2020, as already submitted with the planning application and agreed in principle with the local planning authority prior to determination.

Reason:
To protect and enhance the site for biodiversity in accordance with paragraph 174 of the National Planning Policy Framework, Policy ES6 of the Stroud District Local Plan 2015 and in order for the Council to comply with Section 40 of the Natural Environment and Rural Communities Act 2006.

7. No development shall take place (including ground works, vegetation clearance) until a construction environmental management plan (CEMP) has been submitted to and approved in writing by the local planning authority. The CEMP shall include the following:
a) Measures that will be taken to protect the ditches and pond from surface run-off during the construction phase.
b) The locations of where machinery and materials will be stored
c) Details as to where excess spoil will be stored and distributed
d) Methods and Timings for the removal of vegetation likely to support breeding birds.
e) Full details of measures that will be taken when clearing vegetation with potential to support reptiles and great crested newts.
f) Details explaining how badgers will be safeguarded during clearing of the site and the implementation of the proposed works.
g) The role and responsibilities on site of an ecological clerk of works ECOW or similarly competent person.

The approved CEMP shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details, unless otherwise agreed in writing by the local planning authority.

Reason:
To ensure that protected and priority species are safeguarded in accordance with The Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife and Countryside Act 1981 as amended, Circular 06/2005, the National Planning Policy Framework, and Policy ES6 of the Stroud District Local Plan 2015, and in order for the Council to comply with Part 3 of the Natural Environment and Rural Communities Act 2006.

8. No construction site machinery or plant shall be operated, no process shall be carried out and no construction related deliveries taken except between the hours of 08:00hrs and 18:00hrs on Monday to Fridays, between 08:00hrs and 13:00hrs on Saturdays and not at any time on Sundays, Bank or Public Holidays.

Reason:
To protect the amenity of the locality, especially for the people living/ or working nearby, in accordance with Stroud District Local Plan Policy ES3.

Informatives:

1. The construction of an upgraded access will require the extension of a verge and/or footway crossing from the carriageway under the Highways Act 1980 - Section 184 and the Applicant is required to obtain the permission of Gloucestershire Highways on 08000 514 514 or highways@gloucestershire.gov.uk before commencing any works on the highway.

Appendix B: Land Values

From: Roger Bush <Roger.Bush@brutonknowles.co.uk>
Sent: 17 November 2021 16:54
To: Lucy Binnie <lb@landandmineral.co.uk>
Cc: 532455 Land at Froomebridge 1 Emails <{F330706}.BK@brutonknowles.imanagework.co.uk>
Subject: Fromebridge land values [IWOV-BK.FID330706]

Dear Lucy

Sorry for the delay in getting back to you.

I have had a look at your draft Waste Recovery Plan.

With regard to Land Values we have seen similar flood plain land along the River Severn in poor demand with some land traded in the last few years at figures as low as £4,000 per acre. Land at Hempstead was sold several years ago at in the region of £3,500 with other land at Littleton on Severn changing hands at £4,500.

Good quality land which can be used for pasture and arable crops has been changing hands recently well above £10,000 per acre such as that at Taits Hill, Stinchcombe Dursley reaching £17,500 per acre and that at Berkeley Road at around £11/12,000 per acre and which are being sold now. Average Land prices for the UK rose to £9,700 per acre in the last quarter of this year and that reflects sales of much larger blocks of land. Smaller areas such as this would probably achieve prices considerably higher. This could give a differential between the current land value and prospective land value of as much as £10,000 per acre as this land is readily accessible.

Let me know if you want to chat this through.

Best wishes

Roger

Roger Bush

BK | Bruton Knowles

Chartered Surveyors

Olympus Park, Quedgeley Gloucester GL2 4NF

M: 07808 635676
W: brutonknowles.co.uk
Follow @BrutonKnowles

A difference of £10,000/acre for improved land = increased land value of £143,000.

Appendix C: Income Potential and Loan Costs

From: Roger Bush <Roger.Bush@brutonknowles.co.uk>
Sent: 22 November 2021 17:42
To: Lucy Binnie <lb@landandmineral.co.uk>
Cc: 532455 Land at Froomebridge 1 Emails <{F330706}.BK@brutonknowles.imanagework.co.uk>
Subject: Income potential figures.XLSX - Smiths Gloucester - Land at Froomebridge [IWOV-BK.FID330706]

Dear Lucy
Enclosed please find some figures that I have run through re Income potential.

Let me know if you need to discuss them.

Best wishes

Roger

Roger Bush

Chartered Surveyors

Olympus Park, Quedgeley Gloucester GL2 4NF

M: 07808 635676
W: brutonknowles.co.uk
Follow @BrutonKnowles

Annual Income Potential when works completed

Smith Gloucester 22.11.21
Land at Froomebridge.
Income Potential when works completed.

Area of land for Waste Recovery Plan				5.8	hectares	14.3318	acres
Crop	Winter Wheat Milling				Total		
	Yield	9.5	tones per ha				
	Current Price	£290	per tonne				
	Total	£2,755	per ha	£15,979			
	Straw	5	tonnes per ha				
	Value	£100					
	Total	£500	per ha	£2,900			
	Total Output				£ 18,879.00		
Costs	From ABC costings						
	Variable costs	£ 579.00	per ha	£ 3,358.20			
Income foregone	Summer grazing on poor pasture	£ 100.00	per ha	£ 580.00			
Total Costs and Income foregone					£ 3,938.20		
Potential Increased annual income.					**£ 14,940.80**		

Non-Waste Costs

Item	Cost
Aggregate Fill (85,500t) see Cullimore quote	£128,250.00
Machinery hire with labour and fuel 24wks @ £1250	£30,000.00
Total costs	£158,250.00

Loan Costs

Provided by RBS commercial loan generator for a 15 year loan period

rbs.co.uk/business/loans-and-finance/commercial-mortgage.html?extcam=R_PPC_Google_Bus_Mrtg_88186609843_411482262138_%2Buk%20%2Bcommercial%20%2Bmortgage&gclid=Cj0KCQjwqp-LBhDQARIsAO0a6aKTPftKcG0TCBAxyEK_wn1Jv1fdSu9AS2QR6VSQ5-wmV8IcWYB6SV0aAqdBEALw_wcB&gclsrc=aw.ds

Loan Value	Month Cost	Annual cost
£158,250.00	£1,199.03	£143,884.36

The Cullimore Group of Companies

MORETON C. CULLIMORE (GRAVELS) LTD
Netherhills
Whitminster
Gloucestershire
GL2 7PD

Sand & Gravel Producers & Distributors
Sales & Enquiries
Tel: 01452 740326
Fax: 01452 742418

Bagged & Bulk Aggregates
Decorative & Recycled Materials
Inert Waste Carriers
Delivery & Collection
www.cullimoregroup.co.uk

SMITHS

Date:- 09.12.21

F.A.O. Alan Ball

Our Ref:-

Your Ref:- Andy

Dear sirs,

We thank you for your enquiry dated 24 August 2021 and have pleasure in submitting our quotation we shall be pleased to receive your valued order which will be given our prompt and careful attention.

Delivery address : FROMEBRIDGE OF A38 WHITMINSTER

Description of Materials	[BS EN 12620 / BS EN 13242 / BS EN 13139]	Price	per
Inert Fill Material to site	000	£1.50	tonne
	000		
	000		
	000		
	000		
	000		

Delivery: Prices quoted are for delivery in minimum 16 tonne loads.
Surcharge: Loads of less then 16 tonnes will be subject to a surcharge.
Payment: Strictly net at 30 days to approved accounts only.
Conditions: This quotation is made and is subject to the Company's conditions of sale which are available on request.Materials are not guaranteed by colour and may contain Iron Pyrites. All prices exclude VAT, but include aggregate tax.

Yours faithfully,

Rob Fry
Sales

Cullimore's have a substantial depot handing primary and recycled aggregates on a mineral working site immediately adjacent to the site on the opposite side of the A38 about 100m as the crow flies (just over half a kilometre on the road). The aerial image below illustrates the proximity which is reflected in the competitive quote provided.

Cullimore's have a Quality Protocol confirming the End of waste criteria for the production of aggregates from inert waste.

CULLIMORE GRAVELS LIMITED

RECYCLED AGGREGATE FACILITY

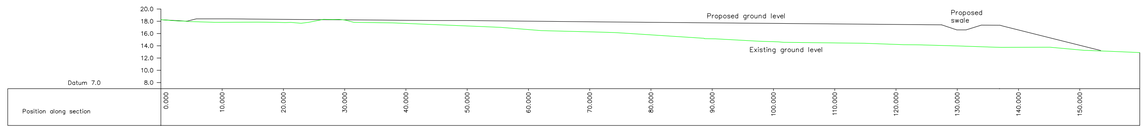
DAIRY FARM QUARRY

NETHERHILLS TRANSPORT YARD

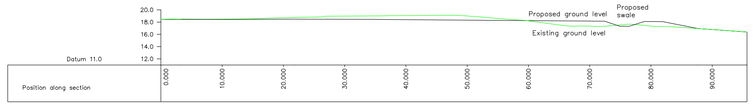
FACTORY PRODUCTION CONTROL (FPC)

QUALITY MANUAL

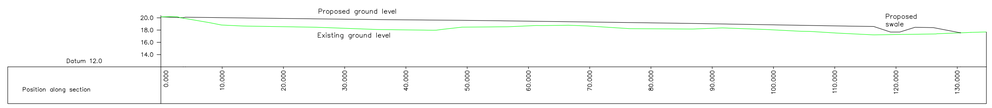
The information contained in this document provides a comprehensive written account of the Factory Production Control quality management measures implemented for conformity to the WRAP Quality Protocol/ BSEN 13242 BSEN 13285



A — A



B — B



C — C

Notes:
1.This drawing should only be used for its original intended purpose.
2.Critical dimensions, levels, clearances etc. should be checked on site before construction work commences.
3.Dimensions in metres unless otherwise stated.

Revision	Comment	Date

ALAN WADE SITE ENGINEERING LIMITED
LAND SURVEYS AND VOLUMETRIC CALCULATIONS FOR EARTHMOVING OPERATIONS
surveys@awsel.co.uk
REGISTERED IN ENGLAND AND WALES COMPANY NO. 3338810. REGISTERED OFFICE: THE MEWS, HOUNDS RD, CHIPPING SODBURY, BRISTOL BS37 6EE

Project
LAND AT FROMEBRIDGE
GLOUCESTERSHIRE

Client
SMITHS

Drawing Title
SECTIONS

Drawn Date	Surveyed Date
28/09/21	–

Scale
1:500 (AT A1)

Drawing Number	Rev
SM/244/05	–

Notes:
1.This drawing should only be used for its original intended purpose.
2.Critical dimensions, levels, clearances etc. should be checked on site before work commences.
3.Dimensions in metres unless otherwise stated.
4.The client is reminded of their duties under the CDM 2015 regulations.
5.National Grid and OS Datum Newlyn used.

Permit boundary

PROPOSED SWALE. 6.5M WIDE. 0.8M DEEP

PROPOSED POND. 770M² AREA.

PROPOSED NEW SURFACE DRAINING TO EAST

PROPOSED SWALE. 6.5M WIDE. 0.8M DEEP

PROPOSED NEW SURFACE DRAINING TO EAST

PROPOSED SWALE. 6.5M WIDE. 0.8M DEEP

PROPOSED NEW SURFACE DRAINING TO SOUTHEAST

EXISTING POND RETAINED

EXISTING CABLES OVER

OVERHEAD CABLES CROSS THE PROPOSED WORKS AREA. THE CABLE OWNER SHOULD BE CONSULTED REGARDING THESE PROPOSALS. THESE ALSO CONSTITUTE A HAZARD DURING CONSTRUCTION PHASE AND THIS SHOULD BE CONSIDERED IN THE PLANNING AND EXECUTION OF THE WORKS.

AS EXISTING

SCALE BAR = 40M
0 10 20 30 40

Revision	Comment	Date

ALAN WADE SITE ENGINEERING LIMITED
LAND SURVEYS AND VOLUMETRIC CALCULATIONS FOR EARTHMOVING OPERATIONS
surveys@awsel.co.uk
REGISTERED IN ENGLAND AND WALES COMPANY NO. 3338810. REGISTERED OFFICE: THE MEWS, HOUNDS RD, CHIPPING SODBURY, BRISTOL BS37 6EE

Project
LAND AT FROMEBRIDGE
GLOUCESTERSHIRE

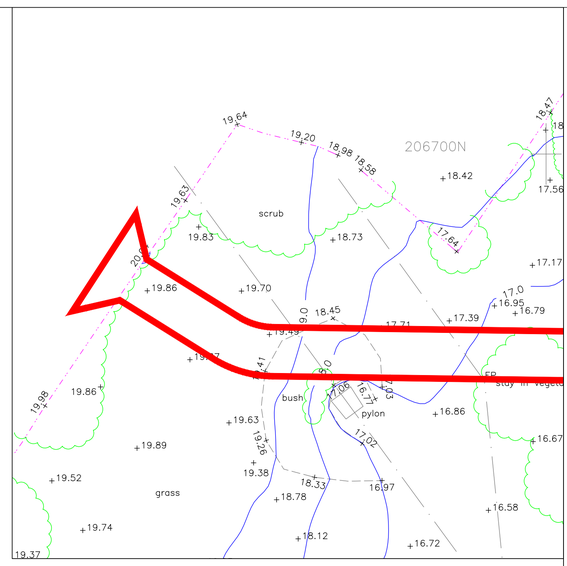
Client
SMITHS

Drawing Title
PERMIT PLAN

Drawn Date	Surveyed Date
29/09/21	–

Scale	
1:500	(AT A0)

Drawing Number	Rev
SM/244/06	–



INSET IS WEST END OF ACCESS ONTO A38

Notes:
1.This drawing should only be used for its original intended purpose.
2.Critical dimensions, levels, clearances etc. should be checked on site before work commences.
3.This is a level survey, not all detail is recorded.
4.OSGB36 National Grid has been used established using GPS and the OS active network. Distances calculated between station coordinates on this drawing are not ground distances.
5.Levels relate to Ordnance Datum Newlyn established using GPS and the OS active network.
6.Dimensions in metres unless otherwise stated.
7.Contours at 1.0m intervals

Legend

B	Bollard
BB	Belisha Beacon
BH	Borehole
BT	British Telecom cover
B/W	Barbed Wire
CATV	Cable television cover
C/B	Close Boarded
C/L	Chain Link
CL	Cover Level
CH	Ceiling Height
Conc.	Concrete
C/P	Chestnut Paling
DK	Drop Kerbs
EL	Eaves Level
Elec.	Electricity Inspection Cover
El.Sub.Sta.	Electricity Sub Station
EP	Electricity Pole
ER	Earth Rod
FH	Fire Hydrant
FW	Foul Water sewer
	Gate (Double)
	Gate (Single)
G	Gully
GV	Gas Valve
IC	Inspection Chamber
IL	Invert Level
LB	Letter Box
LP	Lamp Post
MH	Manhole
Mkr.	Marker
P/R	Post and Rail
P/W	Post and wire
PL	Parapet Level
RE	Rodding Eye
RL	Ridge Level
RNS	Road Name Sign
RW	Retaining Wall
RS	Road Sign
RSD	Roller Shutter Door
RWP	Rain Water Pipe
ST	Stop Tap
SV	Stop Valve
SVP	Soil & Vent Pipe
SW	Surface Water Sewer
△	Survey Station
TCB	Telephone Call Box
TL	Traffic Light
TP	Telegraph Pole
UTL	Unable To Lift
VL	Valley level
WM	Water Meter
WO	Wash out

Bank(top/bottom) — Edge of Hedge/ Vegetation
Tree Canopy — Fence
Edge of Surface — Kerbs, Walls etc.
Overhead line — Bank where contours not shown

Application boundary

0 10 20 30 40
SCALE BAR = 40M

Revision	Comment	Date

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Project
LAND AT FROMEBRIDGE
GLOUCESTERSHIRE

Client
SMITHS

Drawing Title
LEVEL SURVEY

Drawn Date	Surveyed Date
01/10/20	Oct 2008

Scale	
1:500	(AT A0)

Drawing Number	Rev
SM/244/04	–

AMBER PLANNING
Flood Risk & Hydrology

Flood Risk Assessment
September 2020
Version 1

Land at Fromebridge
Gloucestershire
GL2 7PG

Smith's Ltd.

Email: info@amberplanning.co.uk
Website: www.amberplanning.co.uk

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DRAWINGS

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EXECUTIVE SUMMARY

Site Area	5.63ha
Existing / Historic Use	Greenfield – Agricultural.
Proposed Use	Import of c. 57,000m³ of certified clean subsoil for agricultural improvement purposes.
Flood Zone	Flood Zone 1 (Low Risk)
Groundwater Flooding	Low
Infrastructure Failure	Low
Overland Flow - Flooding	Low
Sewer Flooding	Low
Change to Site Surface Finishings (Y/N)	Yes. Full surface water management proposed in line with best practice for new development (final landform).
Infiltration Potential?	No. Precluded by underlying clay geology.
Attenuation Storage Proposed	Yes. 905m³ will be provided using a swale and attenuation pond.
Potential Receptor for Surface Water Discharges	Watercourse / drainage channel present to north east (Frome tributary). SuDS based attenuation proposed to maximise infiltration at source.
Climate Change Allowance	40% based a 100 year development lifetime (Final Landform).

1.0 INTRODUCTION

1.1 Background

1.1.1 Amber Planning Ltd. has been appointed to prepare a Flood Risk Assessment in support of an application for the Import of c.57,000m^3 of certified clean subsoil for agricultural improvement purposes. The application area comprises a 5.63ha plot of land to the north east of Fromebridge Services, Whitminster, Gloucestershire, GL2 7PG. This area falls under the administration of Stroud District Council and Gloucestershire County Council.

1.1.2 Reference to the Environment Agency (EA) online Flood Maps indicates the study area to be situated entirely within Flood Zone 1 (Low Risk), Figure 001.

1.1.3 This assessment has been prepared in accordance with the National Planning Policy Framework (NPPF) and its Planning Practice Guidance (PPG). The requirements of the Environment Agency, Stroud District Council and Gloucestershire County Council have been accounted for within this study.

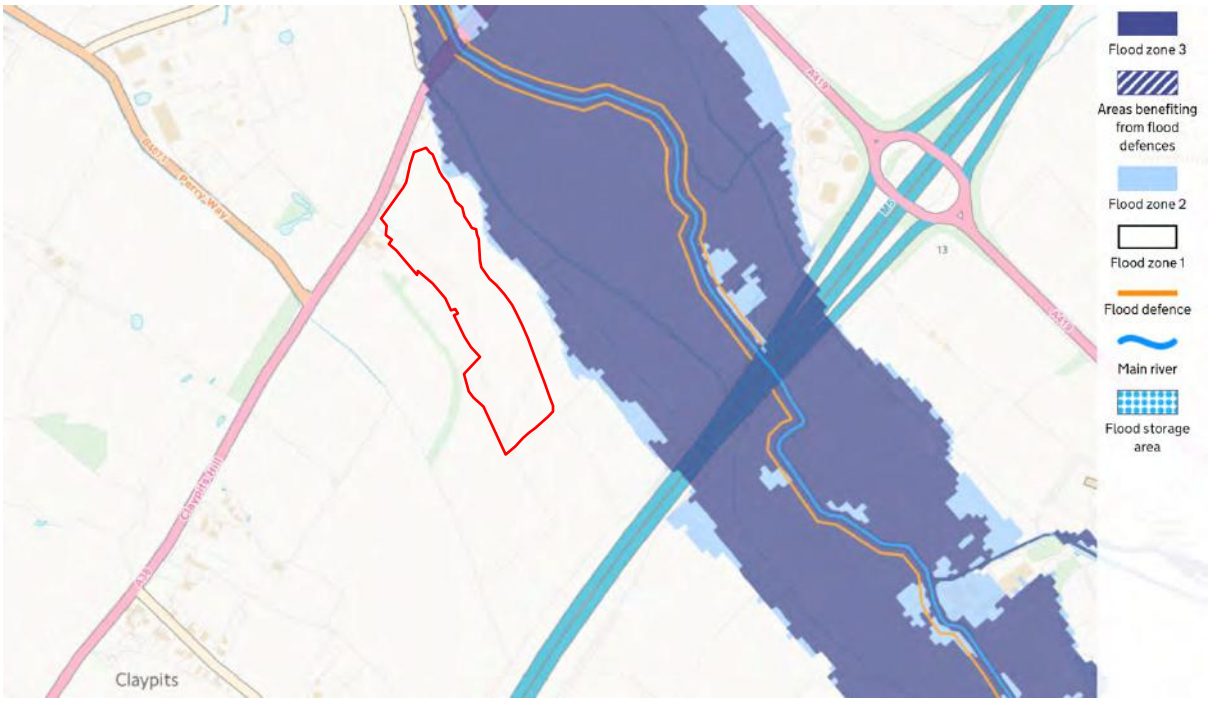


Figure 001: Environment Agency Indicative Fluvial Flood Map

1.2 Objectives

1.2.1 The objectives of the Flood Risk Assessment are to:

- Review national and local planning policy documents and identify any issues they raise, and which need to be addressed in relation to flooding and hydrology;
- Review readily available information on flooding using data provided by the EA and, where available, the Strategic Flood Risk Assessment (SFRA);
- Evaluate the background hydrology;
- Assess the risks from all sources of flooding, including fluvial;
- Consider the surface water drainage requirement(s); and
- Recommend mitigation and / or management measures required to prevent detrimental impacts to flooding or hydrology at the site or in downstream receptors.

1.2.2 Local development framework documents, as well as strategic policy and technical studies, have been reviewed as part of this study.

1.3 Confidentiality

1.3.1 Amber Planning has prepared this report solely for the use of The Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Amber Planning; a charge may be levied against such approval.

2.0 SOURCES OF INFORMATION

2.1 General

2.1.1 In preparing this assessment background information has been sought from the following sources:

- Communities and Local Government (2019). National Planning Policy Framework;
- Communities and Local Government (*Living Document*). Planning Practice Guidance;
- UK Government Guidance (2020). Flood Risk Assessments: Climate Change Allowances[1];
- CIRIA (2015). C753: The SUDS Manual V.6;
- Gloucestershire County Council website, Planning Policy page[2];
- Gloucestershire County Council (2003). Minerals Local Plan for Gloucestershire (2018-2032);
- Gloucestershire County Council (2004). Gloucestershire Waste Local Plan (2002-2012) & Saved Policies;
- Gloucestershire County Council (Nov. 2012). Waste Core Strategy (2012-2027);
- Gloucestershire County Council (Apr. 2018). Minerals and Waste Development Scheme (2018-2021);
- Gloucestershire County Council. Policies Proposals Map[3];
- Gloucestershire County Council (Sept. 2008). Strategic Flood Risk Assessment: *Minerals & Waste Development Framework* - Level 1;
- Stroud District Council Website, Planning Strategy page[4];
- Stroud District Council (Sept. 2008). Strategic Flood Risk Assessment: *Local Development Framework* - Level 1;
- Environment Agency Flood Mapping[5];
- British Geological Survey online mapping[6];
- Centre for Ecology and Hydrology Flood Estimation Handbook (FEH) Web Service, hydrometric data[7]; and
- Site Specific Topographical survey (2008 & 2020).

2.2 Planning Context - National Planning Policy

National Planning Policy Framework

2.2.1 The National Planning Policy Framework (NPPF) Section 14: Meeting the Challenge of Climate Change, Flooding and Coastal Change, considers the implications of flooding within the planning process. According to the NPPF:

'A site-specific flood risk assessment is required for:

- *All development within Flood Zones 2 (Medium Risk) and 3 (High Risk);*

In flood zone 1 an assessment should accompany all proposals involving:

- *Sites of 1ha or more;*
- *Land identified by the Environment Agency as having critical drainage problems;*
- *Land identified in a Strategic Flood Risk Assessment as being at increased flood risk in future; or*

[1] https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances#table-2
[2] https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/
[3] https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/policies-proposals-map/
[4] https://www.stroud.gov.uk/environment/planning-and-building-control/planning-strategy
[5] http://www.Gov.uk
[6] http://mapapps.bgs.ac.uk/geologyofbritain/home.html
[7] https://fehweb.ceh.ac.uk/GB/map

- *Land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.'*

2.2.2 Paragraph 163 of the NPPF states the following regarding the consideration of flood risk within the planning application process:

'When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood risk assessment. Development should only be allowed in areas at risk of flooding where, in light of this assessment (and the sequential and exceptions tests, as applicable), it can be demonstrated that:

a) Within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;

b) The development is appropriately flood resistant and resilient;

c) It incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;

d) Any residual risk can be safely managed; and

e) Safe access and escape routes are included, where appropriate, as part of an agreed emergency plan.'

2.3 Planning Context - Local Planning Policy

2.3.1 Gloucestershire County Council is the local planning authority for waste and minerals planning matters within Stroud District. The following documents form the development plan:

- Gloucestershire Waste Local Plan (2002-2012)
- Gloucestershire Waste Core Strategy (2012)
- Gloucestershire Minerals Local Plan (2018-2032)

2.3.2 The Minerals Local Plan has recently been replaced. Work is ongoing to replace the Waste Local Plan, the Waste Core Strategy having been adopted In November 2012. To this end a number of the policies contained within the Waste Local Plan document have now been deleted. Whilst these no longer form part of the '*development plan*' they may still be a material consideration (where appropriate) in the determination of planning applications in the absence of new style plans. The weight to attach to these policies is a matter for decision-makers on a case-by-case basis.

Gloucestershire Waste Local Plan (2002-2012)

2.3.3 The Waste Local Plan was adopted in October 2004 and is used by the County Council to inform planning decisions for waste management facilities or other planning applications which could have waste implications.

2.3.4 The Strategy is intended to guide developers in the type of development will be acceptable and where and to encourage and stimulate businesses involved in the recycling and re-use of resources.

2.3.5 Policies relevant to the consideration of Flood Risk and Drainage are as follows:

- Policy 33: Water Resources – Pollution Control (saved)
- Policy 34: Water Resources – Flood Control (not saved)

Gloucestershire Waste Core Strategy (2012)

2.3.6 The Waste Core Strategy was adopted in November 2012 and replaces most of the previously saved Waste Local Plan policies.

2.3.7 Policies relevant to the consideration of Flood Risk and Drainage are as follows:

- Policy WCS12: Flood Risk
- Policy WCS17: Design

Gloucestershire Minerals Local Plan (2018-2032)

2.3.8 The Minerals Local Plan was adopted in March 2020 and is used by the County Council to inform planning decisions for minerals facilities or other planning applications which could have minerals implications.

2.3.9 Policies relevant to the consideration of Flood Risk and Drainage are as follows:

- Policy DM02: Cumulative Impact
- Policy DM04: Flood Risk
- Policy DM04: Water Resources
- Policy MR01: Restoration, aftercare and facilitating beneficial after uses

Policies Proposals Map (Living Document)

2.3.10 The Policies Proposals Maps indicate land designations relevant to the consideration of waste and minerals. Review of this mapping indicates the site to be located within a *Mineral Resource Area for Sand and Gravel*, likely associated with the overlying River Terrace Deposits present in this locale.

Strategic Flood Risk Assessment

2.3.11 The Level 1 Strategic Flood Risk Assessment (SFRA) reports evaluate the extent and nature of flooding in the district, they also consider the implications for land use planning and sets out the criteria for submitting future planning applications and guiding development control decisions.

2.3.12 These documents have been reviewed as input to this study.

3.0 BACKGROUND AND DATA REVIEW

3.1 Site Setting

Property Address	Land north east of Fromebridge Services (A38), Whitminster, Stroud, GL2 7PG
National Grid Reference	377040, 206694
Area	5.63ha

Table 001: Site Setting

3.2 Current Layout

3.2.1 The application area comprises agricultural land situated to the north east of the A38 Fromebridge Services, Figure 002.

Figure 002: Existing Site Layout – Aerial Photograph

3.3 Surrounding Area

Direction	Description
North East	Fields / agricultural land
South East	Fields / agricultural land
South West	Fromebridge Services / Fields / agricultural land
North West	A38, agricultural land and aggregate suppliers (industrial use) beyond

Table 002: Site Surrounds

3.3.1 The nearest settlements are outlined in Table 003. Cullimore Aggregates Suppliers is located 100m north west.

Settlement	Direction	Distance
Claypitts	South West	0.42km
Alkerton	South	0.50km
Eastington	South East	0.85km
Church End	South / South East	0.80km
Nupend	East / South East	1.55km
West End	East / South East	1.15km
Oldends / Stonehouse	South East	1.95km
Whitminster	North / North East	1.00km
Fromebridge	North East	0.32km
Frampton on Severn	North West	2.20km

Table 003: Surrounding Settlements

3.4 Topographical Survey

3.4.1 Site specific topographical survey indicates current ground levels to be extremely variable and uneven across the application area, ranging between 14.00m AOD and 20.00m AOD, reducing in a north easterly direction, Drawing SM/244/02.

3.4.2 The field is accessed via a track to the north east of Fromebridge Services which links into the A38. Surface elevations are located at 18.5m AOD in this locale.

3.5 Proposed Development

Figure 003: Proposed Site Layout

3.5.1 Planning permission is sought for the import of up to 57,000m^3 of inert fill for the purposes of agricultural improvement. Ground levels of between 17.15m AOD and 20.10m AOD are proposed across a 5.63ha area, refer to Drawing SM/244/02 and Figure 003.

3.6 Hydrogeology

3.6.1 Regional geological mapping indicates the bedrock geology to comprise the Blue Lias and Charmouth Mudstone Formations. Superficial deposits are recorded with these including discrete patches of River Terrace Deposits at the site. Moving north east superficial alluvial deposits are recorded, likely associated with the floodplain for the River Frome and its tributaries.

3.6.2 The permeable nature of the overlying soils beneath the application area indicates the potential use of infiltration for surface water disposal.

3.6.3 BGS borehole data is available for the area, refer to Figure 004 and Appendix I: *Data*. This confirms the presence of underlying clays and overlying River Terrace Deposits, with the latter c. 1.65m to 2.45m thick at boreholes SO70NE21 and NE20 0.2km south east, increasing in thickness in a north westerly direction to 3.15m at borehole SO70NE55 (0.75km NW).

3.6.4 Ground water is recorded between 0.9m bgl and 2.20m bgl at boreholes SO70NE54 and SO70NE55 (0.75km NW) and 0.8m bgl – 1.6m bgl in boreholes SO70SE20 and SO70SE21 (0.2km south east)l. These records date from 2000 and 1961/5, respectively, care should therefore be exercised in interpreting this data owing to its historic nature.

3.6.5 Encountered groundwater is likely to be associated with perched water tables present at the interface between the underlying mudstone and overlying River Terrace Deposits.

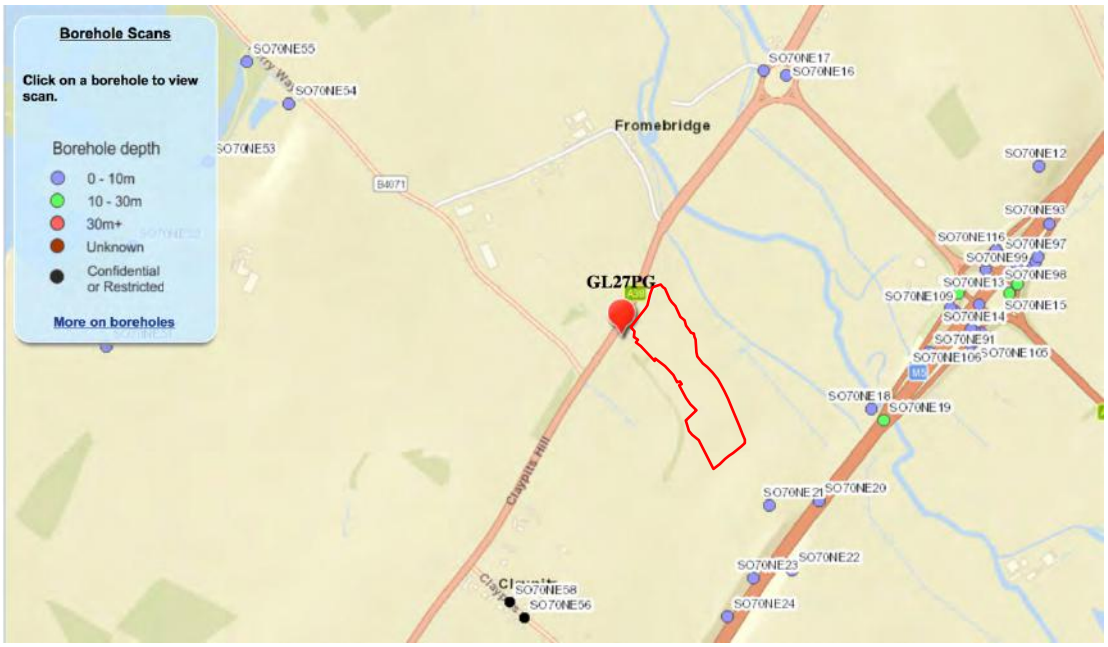


Figure 004: British Geological Survey Borehole Location Map

3.6.6 Mapping data downloaded from Defra's Magic website[8] confirms the property to be located external to Groundwater Source Protection Zones; none being recorded within a 1km radius.

3.6.7 Taking account of the proposed nature of use and the presence of unimpeded flowpaths for extruded groundwater into local watercourses, the risk posed by this form of flooding is considered to be **Low**, with no further assessment required.

[8] https://magic.defra.gov.uk/MagicMap.aspx

3.7 Hydrology

Catchment Descriptor	Value
AREA	218.95km^2
River Baseflow Index (BFIHOST) 2019	0.711
Standard Percentage Runoff (SPRHOST)	22.23%
Drainage Path Length (DPLBAR)	19.06km
Drainage Path Slope (DPSBAR)	119.20m/km
Flood Attenuation by Rivers and Lakes (FARL)	0.955
Proportion of time soils are wet (PROPWET)	0.320
Standard Annual Average Rainfall (SAAR)	877mm
Urban Extent (URBEXT: 2000)	0.0352

Table 004: FEH Catchment Descriptor Information

3.7.1 The site is located within the River Frome catchment. This watercourse drains an upstream catchment area of 219km^2 and flows in a north westerly direction in this locale, passing within c.160m north east of the site at its closest point. Environment Agency Flood Maps (Figure 001) indicate the development area to be located within Flood Zone 1 (**Low Risk**).

3.7.2 A minor watercourse is present to the north east. This rises as a field drain within farmland c.850m south east and flows parallel to the Frome in a north westerly direction for 670m passing beneath the M5 and exiting 290m east of the application area whence forming a larger channel. From here it continues in a north westerly direction for 730m, passing within 50m of the north eastern boundary before entering a culvert beneath the A38 and discharging into the River Frome at Fromebridge a further 200m downstream.

3.7.3 Catchment descriptor information has been downloaded for the area from the CEH Flood Estimation Handbook web data service (Nov. 2019), which is summarised in Table 004. This indicates a moderate sized, slightly urbanised catchment, with elevated topographical relief, highly permeable geology and moderate average annual rainfall.

3.7.4 Flows within local watercourses are likely predominated by sub-terranean flows (BFIHOST) with more modest contributions from overland flow (SPRHOST) and with a low catchment response to incident rainfall anticipated. Nevertheless the elevated topographical relief and underlying impermeable bedrock geology may result in a flashy response to incident rainfall at the local scale.

3.7.5 Desk based review[9] indicates no surface water abstraction points to be present within 1km however, this should be verified via EA consultation. No further surface water features, springs or boreholes are indicated to be present within 50m.

Flood Defences

3.7.6 The application site is situated within Flood Zone 1 with no flood defences indicated to be present.

Historic Flooding

3.7.7 Initial investigation reveals no evidence of historic flooding, although a lack of recorded incidents is no guarantee that a site has never flooded.

[9] https://environment.maps.arcgis.com/apps/webappviewer/index.html?id=c9176c299b734cff9a6deffcf7f40a4e

3.8 Flood Zone Classification

3.8.1 The site is indicated to be wholly within Flood Zone 1 (Low Risk).

3.9 Flood Risk Vulnerability

	Flood Risk Vulnerability Class'n (PPG Table 2)	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zone (PPG Table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	Exception Test Required	✓	✓	✓
	Zone 3a	Exception Test Required	x	Exception Test Required	✓	✓
	Zone 3b (Functional Floodplain)	Exception Test Required	x	x	x	✓

Key:

✓ Development is appropriate x Development should not be permitted

Table 005: PPG Table 3 – Flood Risk Vulnerability and Flood Zone Compatibility

3.9.1 An application is to be submitted for the import of up to 57,000m³ of inert fill across a 5.63ha area for the purposes of agricultural improvement. Table 2 of the PPG defines the development as '*Waste Treatment*' and '*Land and Buildings used for Agriculture and Forestry*' and classifies both uses as '*Less Vulnerable*.' Table 3 of the PPG considers all uses to be appropriate within Flood Zone 1.

3.10 NPPF Sequential and Exception Tests

3.10.1 The Sequential Test steers development preferentially towards Flood Zone 1 (Low Risk), considering Flood Zone 2 (Medium Risk) and then Flood Zone 3 (High Risk) only if land cannot be identified as available for development in zones at lower risk from flooding.

3.10.2 The Sequential Test is generally carried out at a strategic level by the Local Planning Authority with input from the Environment Agency, as part of the Local Plan process and should be informed by a Strategic Flood Risk Assessment.

3.10.3 The proposed facility is located within Flood Zone 1 and therefore passes the Sequential Test by default, with no requirement for application of the Exception Test. Nevertheless, element two of the Exception Test is addressed within this FRA.

3.11 Climate Change

Rainfall Allowance

3.11.1 Changes to the landform would be subject to a default lifetime of 100 years, which requires consideration of climate change factors of up to 40% (Upper End) to 2115.

3.12 Infrastructure Failure

3.12.1 Flooding from artificial sources occurs when raised channels or surface water storage features, including reservoirs, become overwhelmed leading to dam or bank failure. The probability of failure is low owing to regular inspection and maintenance regimes. However, in the event of a breach occurring, the consequences can be significant.

3.12.2 Desk based research also indicates the site to be remote to reservoirs, canals, raised waterways and non-EA flood defence infrastructure, the failure of which could lead to flooding. The flood risk posed by infrastructure failure is therefore considered to be **Low**, with no further assessment required.

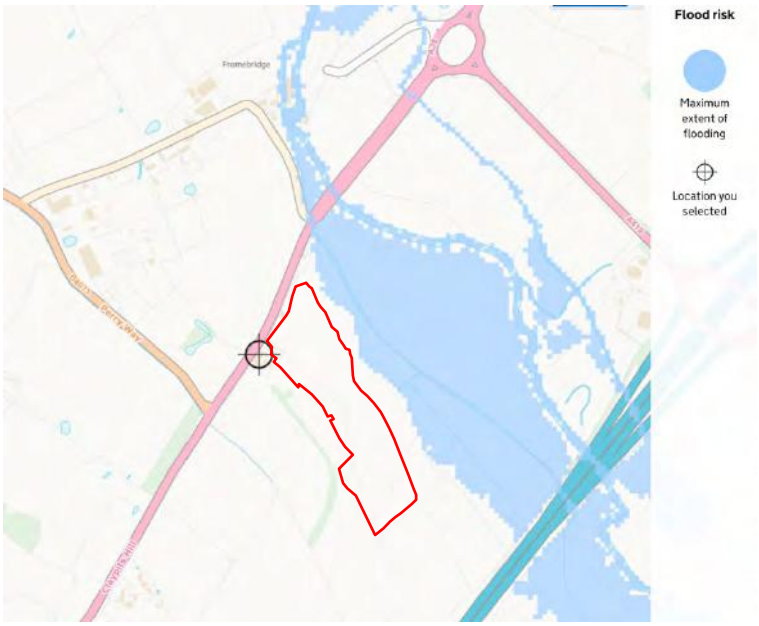


Figure 005: Environment Agency Reservoir Flood Map

3.13 Surface Water Flooding

3.13.1 Detailed EA pluvial mapping downloaded from the EA website, assesses three main scenarios, Low Risk (0.1%-1% probability of flooding annually), Medium Risk (3.3% - 1%) and High Risk (>3.3%). The findings of this assessment are summarised in Figure 006.

3.13.2 This data indicates the application area to be generally at **Very Low** risk from surface water flooding. While some discrete flooding is indicated in the central southern section of the site this is likely to represent minor ponding within topographical low points and is unlikely to be laterally extensive, with no further assessment proposed.

Figure 006: Environment Agency Surface Water Flood Map

3.14 Sewers

3.14.1 The facility is remote from sewerage infrastructure with no requirement for further consideration of flooding from this source.

4.0 FLOOD RISK ASSESSMENT

4.1 Flood Risk Screening Opinion

4.1.1 In accordance with the NPPF Section 14 it is necessary to consider all forms of flood risk. A flood risk scoping exercise has therefore been completed for the site, the results of which are outlined in Table 006.

Nature of Flood Risk	Flood Risk to Site?
Groundwater	Low. Groundwater indicated to be located at depth with direct flowpaths for extruded groundwater into local watercourses.
Tidal	Low. Plot is located inland.
Fluvial	Low. Flood Zone 1 (Low Risk).
Infrastructure Failure (Reservoirs, Canals and Other Artificial Sources)	Low. The area is remote to infrastructure (flood defences / reservoirs / raised waterways), the failure of which could lead to flooding.
Overland Flow (surface water from off-site sources)	Low. EA Flood Maps indicate a Very Low risk from surface water flooding.
Sewers	Low. Property is remote from SW sewers with no associated risk.
Surface Water Drainage (on-site)	Yes. An uplift in the runoff coefficient may arise from proposals. Full surface water management is proposed in line with best practice for new development.

Table 006: Flood Risk Screening Opinion

4.2 Summary of Flood Risk

4.2.1 In accordance with the requirements of the NPPF all potential flood risks posed to / by the facility have been assessed and concluded to be **Low**, now and in the future taking account of development lifetime and climate change considerations, with no requirement for flood mitigation and/or management.

4.2.2 The proposals are therefore considered appropriate within the context of the Local Planning Policy documents and paragraph 163 of the NPPF:

- *Is the site at risk of flooding?*

If yes and following the Sequential Test:

- *Has the most vulnerable development been located in areas of lowest flood risk?*
- *Is development appropriately flood resilient and resistant?*
- *Can any residual risk be safely managed (including safe access / escape routes)?*
- *Has priority been given to the use of SUDS?*

4.2.3 Potential impacts to flood risk arising from surface water generated within the development are addressed in Section 5.0.

5.0 SURFACE WATER

5.1 Introduction

5.1.1 An application is to be submitted for the Import of c.57,000m³ of certified clean subsoil for the purposes of agricultural improvement. The application area comprises a 5.63ha field situated to the north east of Fromebridge Services, Whitminster, Gloucestershire, GL2 7PG.

5.1.2 The field currently drains via infiltration into the underlying soils with excess runoff discharged to local watercourses via overland flow.

5.1.3 The NPPF and its PPG require that existing runoff rates and volumes must be maintained, taking account of climate change and that, wherever possible, a degree of betterment is provided.

5.1.4 An uplift in the runoff coefficient will arise from development proposals which, without mitigation, would have a consequent detrimental impact on the rate and volume of surface water runoff generated. This would be further compounded by climate change impacts over time.

5.1.5 In accordance with the NPPF new development must incorporate flood attenuation measures to restrict surface water discharges to existing / greenfield rates. These should be sized to accommodate runoff generated by return period pluvial flood events up to and including 100 years, taking account of climate change. This is discussed in greater detail below.

5.1.6 The use of Sustainable Drainage Systems (SuDS) has been considered wherever possible.

5.2 Land Use

Surface Finishing	Runoff Coefficient	Pre-Developed (ha)	Developed (ha)
Agricultural grassland Subsoils: River Terrace Deposits (Clay Silt, Sand, Gravel)	0.32	5.63	0
Final Landform Subsoils: Inert Clean Soils (Clay / Loam assumed)	0.61	0.00	5.63
TOTAL		**5.63**	**5.63**
Average Runoff Coefficient		**0.32**	**0.61**

Table 007: Summary of Land Use

5.2.1 Runoff coefficients for the landform have been derived using the National Coal Board Nomogram, a technique used for estimating runoff from spoil heaps and man-made landforms, taking account of the topographical relief (average gradient); changes to soil type (clay / loam assumed); and nature of surface finishing (cultivated land / short grassland). Copies of these calculations are located at Appendix II: *Workings*. This method was also used to confirm the baseline runoff coefficient taking account of site specific data including BGS geological mapping and soil data from BGS boreholes.

5.3 SuDS Options for Surface Water Disposal

5.3.1 Desk based investigation indicates the presence of underlying clay bedrock geology. However this is overlain by more permeable soils with a high sand and gravel content and with surface water disposal via infiltration considered viable.

5.3.2 The site is located immediately adjacent to a minor watercourse into which a connection could be established for the disposal of runoff.

5.3.3 It is therefore proposed to provide attenuation storage using SuDS measures, including detention ponds and swales, to promote infiltration at source with excess runoff discharged at greenfield rates to local watercourses.

5.3.4 In the absence of detailed site investigation data the surface water attenuation requirements have been sized based on controlled discharge to local watercourses.

5.3.5 This is in accordance with the SuDS hierarchy as outlined within Section 3.2.3 of the SuDS Manual, and summarised below:

SuDS Discharge Hierarchy:

- Infiltration
- Discharge to surface waters
- Discharge to surface water sewer
- Discharge to combined sewer (last resort)

5.4 Greenfield Runoff Rates

5.4.1 Greenfield runoff rates have been estimated using the WinDes Micro drainage ICPSUDS function with input data from the Flood Estimation Handbook Web Service. These are based on a linear interpolation from a 50ha catchment, in accordance with SUDS Manual guidance. Table 008 summarises the results of this analysis. Full copies of these calculations are located at Appendix II: *Workings*.

Return Period (yrs.)	Runoff Rate (l/s/ha)	Runoff Rate (l/s)
Q_{BAR}	2.902	16.347
30	5.624	31.680
100	7.298	41.110

Table 008: Greenfield Runoff Rates

5.5 Attenuation and Controlled Discharge

5.5.1 The WinDes Micro Drainage software suite has been used to estimate the surface water storage requirements for the final landform. Storm scenarios have been run for both winter and summer profiles, for a range of durations between 15-10,080 minutes, taking account of land use data, greenfield runoff rates and climate change, respectively. Full copies of these calculations are contained within Appendix II: *Workings*, with a summary provided in Table 009.

5.5.2 The WinDes Micro Drainage software package assumes all surfaces to be impermeable. The site area for the final landform has therefore been multiplied by the uplift in the runoff coefficient (0.29) to derive an Effective Impermeable Area (*EIA*) for assessment of 1.633ha.

Return Period Rainfall Event (Yrs.)	Flood Storage Requirement (m^3) Basic	Modelled Flood Storage (m^3) Detailed	
Q_{BAR}	370	60 (Pond)	290 (Swale)
30	685	170 (Pond)	515 (Swale)
100	905	300 (Pond)	605 (Swale)

Table 009: Surface Water Attenuation Requirements

5.6 Drainage Layout

5.6.1 A maximum rainwater storage requirement of 905m³ has been estimated. This will be provided by a swale at the base of the batter slope which will intercept runoff from the landform and convey it into a downstream attenuation pond situated on the south eastern boundary. Refer to Drawing SM/244/02 for a graphical representation of the proposed drainage layout. The following considerations have been assumed in the design of the surface water storage areas:

Swale

- Depth: 0.800m
- Max. Water Level: 0.5m
- Freeboard: 300mm
- Width (Top of Bank): 6.3m
- Width (Base): 1.5m
- Bank Slope: 1:3
- Length: 500m
- Available Volume (at max. water level): 750m³

Attenuation Pond

- Depth: 0.800m
- Max. Water Level: 0.499m
- Freeboard: 300mm
- Area (Top of Bank): 770m² (25.8m x 29.8m)
- Area (Pond Base): 525m² (21.0m x 25.0m)
- Bank Slope: 1:3
- Available Volume (at max. water level): 300m³

5.6.2 The volume of flood storage provided within the swale has been accounted for within the WinDes Micro Drainage Calculations as '*volume within upstream pipework'* with connecting pipework at 0.1m diameter and with manning's n set to 0.04 (excavated channel, straight / uniform, short grass possible stones and weeds). The channel slope has been set at 1:500.

5.6.3 Outflow from the attenuation areas will be controlled by a restricted orifice designed to limit discharges to greenfield rates and to ensure the development causes no increase in downstream flooding.

5.7 Health and Safety

5.7.1 The bank slopes of the surface water storage areas are designed at 1:3 to permit safe crawl-out in the event of accidental fall in and with maximum water levels set <0.5m.

5.7.2 All surface water attenuation areas are designed to be dry under normal conditions becoming wet only during periods of elevated rainfall and / or flooding.

5.8 Network Capacity

5.8.1 Runoff will discharge from the final landform into the swale via overland flow from where it will be conveyed into the attenuation pond.

5.8.2 The attenuation facilities (pond & swale) are designed to be dry under normal conditions becoming operational only following intense rainfall or storms. Capacity is present within each to accommodate rainfall events up to and including the Q_{100} storm, accounting for climate change and without surcharge. A 300mm freeboard is provided above the maximum water level in each attenuation facility to account for seasonal variations in rainfall, successive storms and losses in storage associated with siltation.

5.8.3 Outflow from the attenuation areas will be controlled by a restricted orifice designed to limit discharges to greenfield rates. The outfall will be fitted with a flow control slot and / or flap valve to ensure existing rates of discharge rates are maintained and to prevent surcharge.

5.8.4 The storage area incorporates an emergency overflow weir above the outfall to direct runoff into local watercourses at controlled rates in the event of surcharge or blockage of the outfall(s).

5.8.5 It is anticipated that the attenuation facility will not suffer impacts to efficiency arising from the ingress of elevated or perched water tables. Where groundwater is encountered during construction a clay liner should be incorporated to prevent its ingress.

5.9 Water Quality

5.9.1 The surface water drainage system incorporates a number of SuDS elements which have been designed in accordance with the SuDS Manual (CIRIA report no. C753). These are specified to provide on-site water quality treatment, taking account of the Pollution Hazard and Mitigation Indices outlined within Tables 26.2 and 26.3 of the SuDS Manual, respectively; with these summarised in Tables 010 and 011 of this report.

5.9.2 Review of the SuDS Manual Table 26.2 indicates there to be no hazard classification which applies specifically to the nature of development proposed. However, a **High Hazard** has been assumed for the soil importation phase. **A Very Low** hazard has been assumed for the Final Landform, based on its return to agricultural land, species rich grassland and wetland areas.

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Soil Importation Sites with heavy pollution	High	0.8	0.8	0.9
Final Landform	Very Low	0.2	0.2	0.05

Table 010: Excerpt from CIRIA 753 Table 26.2 Pollution Hazard Indices for Different Land Use Classifications

		SuDS Mitigation Indices		
SuDS Component	**Development Phase Served**	**Total Suspended Solids (TSS)**	**Metals**	**Hydrocarbons**
Swale	▪ Soil Importation ▪ Final Landform	0.5	0.6	0.6
Settlement Pond (detention area)	▪ Soil Importation ▪	0.5	0.5	0.6
Detention Pond	▪ Soil Importation ▪ Final Landform	0.5	0.5	0.6
Adjusted SuDS Mitigation Index[1]	**Soil Importation**	**1.00**	**1.10**	**1.20**
Adjusted SuDS Mitigation Index[1]	**Final Landform**	**0.75**	**0.85**	**0.90**

[1] Applies where the Mitigation Index of individual SuDS component is insufficient to treat runoff in isolation and where 2 SuDS components (or more) are required in series

Table 011: Excerpt from CIRIA 753 Table 26.3 SuDS Mitigation Indices for Discharges to Surface Waters

Pollution Hazard – Phase 1: Soil Importation

5.9.3 Review of the above data indicates the Mitigation Index for each of the SuDS Components to be below the identified Pollution Hazard Index for each of the potential contaminants which may be present within runoff generated by the mineral extraction works.

5.9.4 The guidance notes within CIRIA 753, P.568 state that where the Mitigation Index of an individual SuDS component is insufficient to perform water treatment in isolation, two (or more) SuDS components will be required in series, where:

Total SuDS Mitigation Index = Mitigation Index$_1$ + 0.5 (Mitigation Index$_2$)

5.9.5 A factor of 0.5 is used to account for the reduced performance of secondary or tertiary components associated with already reduced inflow concentrations. For example, the adjustment for TSS would be calculated as follows:

Total SuDS Mitigation Index (TSS) = 0.5 + (0.5 * 0.5) + (0.5 x 0.5) = 1.0

5.9.6 The adjusted SuDS Mitigation Indices are presented in the bottom two rows of Table 011. Based on this adjusted data it is concluded that the proposed SuDS Mitigation measures outlined above and expanded on below, are sufficient to mitigate potential contaminants present within the runoff from the proposed mineral workings, with no further treatment measures required.

5.9.7 Nevertheless, where it is felt necessary an oil interceptor can be provided upstream of the surface water storage area to remove silts, suspended solids and hydrocarbons from runoff and to ensure that no detrimental impacts to water quality arise from development proposals.

Pollution Hazard – Phase 2: Final Landform

5.9.8 Review of the above data indicates the identified Pollution Hazard Indices for all identified contaminants to be lower than the Mitigation Indices for at least one of the individual SuDS components, refer to Tables 010 & 011. It is therefore concluded that the proposed SuDS Mitigation measures outlined in Table 011 and expanded on below, are sufficient to mitigate potential contaminants present within site generated runoff.

Water Quality Treatment – Phase 1: Soil Importation

5.9.9 It is proposed to provide on-site water quality treatment to ensure only clean water is discharged, using one, or a combination of, the following water quality treatment, designed in accordance with the requirements of the SuDS Manual section 4 (Table 4.3) and Section 26 (Tables 26.2 and 26.3):

- **Silt Buster / Settlement Ponds:** Runoff to be discharged into the swales / detention pond via a silt buster and / or settlement ponds to remove residual silts and sediments upstream of the main surface water storage facilities and to prevent channel / bank scour within downstream receiving waters. Settlement ponds can be created using a sectioned off area within the upstream section of the main attenuation pond;
- **Perimeter swales:** To include step dams and flow expansion points to reduce flows and encourage silt / sediment deposition upstream of the outfall to the attenuation facility, particularly where elevated topographical relief is encountered; and
- **Reed planting:** Proposed within the settlement / detention ponds and swales to further slow flows, encourage sedimentation / retention and aid water polishing.

5.9.10 The inclusion of the above measures will encourage the settlement and retention of sediments, preventing blockage of the inlets / outfall and the discharge of sediment laden water to local watercourses, reducing potential scour and ensuring that only clean water is discharged.

5.9.11 The underlying clay bedrock geology will prevent the opening of contaminant pathways between surface and groundwater and ensure that the detention facility will not suffer impacts to efficiency arising from groundwater ingress.

5.9.12 All surface water attenuation facilities and water quality treatment measures should be in place ahead of construction commencing.

Water Quality Treatment – Phase 2: Final Landform

5.9.13 The final landform will drain via a perimeter swale to an attenuation pond / detention facility, with reed beds present which will aid the settlement of silts and sediments. Given the limited potential contaminant sources present no further water quality mitigation measures are proposed.

5.9.14 It is recommended however that the surface water conveyance and attenuation facilities be desilted immediately after construction has been completed and again 1 year after, once the grass sward has established, to ensure their continued efficiency.

5.9.15 The inclusion of the above measures will encourage the settlement and retention of sediments and organic material, prevent blockage of the outfalls and the discharge of sediment laden water to local watercourses, reducing potential scour and ensuring that only clean water is discharged.

5.10 Management and Maintenance Responsibility

5.10.1 **Smith's Ltd.** will be responsible for ensuring the ongoing management and maintenance of the surface water management systems serving the yard, either directly or via an appointed contractor.

Inspection and Maintenance Schedule

5.10.2 It is proposed that a programme of inspection and maintenance be executed for the surface water management systems by the applicant, their facilities manager, or an appointed drainage contractor. This should be undertaken in accordance with the schedule outlined below and following significant rainfall events and / or storm activity.

5.10.3 A photographic record of inspections should be undertaken to pick up long term changes that may not be apparent within a single inspection. Inspections should comply with all relevant Health and Safety legislation.

5.10.4 This maintenance schedule applies for the lifetime of the development.

Notes

5.10.5 All waste arisings should be collected by an approved contractor and should be subject to appropriate treatment and disposal.

Element	Frequency	Notes
Silt Traps / Silt Busters	**Soil Importation:** Weekly / following storm activity **Final Landform:** NA	▪ Visual inspection, removal of accumulated silt.
Detention Areas / Swales	**Soil Importation:** Monthly **Final Landform:** Quarterly	▪ Visual inspection for accumulated silt. Where significant siltation is seen, remedial works should be undertaken. ▪ Visual inspection / removal of accumulated, debris, blockage.
Reed Beds	Twice Annually (Mar. / Sept.)	▪ Regular cutting (annually following peak growth seasons) will be key to ensuring the longevity of the reed beds and preventing excessive die back. ▪ Where die back is seen replanting should be undertaken. A borrow area may be necessary elsewhere within the site (zones subject to more regular wetting, e.g. near to watercourses), where reeds can be grown and transplanted to the detention facilities area(s).
Vegetation	Quarterly (ensure cutting / strimming is undertaken at least twice during peak growing seasons e.g. Mar. / Sept.)	▪ Regular grass cutting and maintenance of shrubs / trees will be key in reducing the presence of debris which could block the drainage network or cause eutrophication of water bodies. ▪ Grass should be cut quarterly, with focus on the growing season (Mar. – Oct.) and leaves / debris cleared from landscaped areas. ▪ During the winter shrubs and trees should be pruned to reduce accumulated vegetation within the site / lagoons. ▪ All mowings / cuttings to be removed from vicinity of pond / swales to prevent eutrophication.
Inlets / Outfalls	**Soil Importation:** Weekly / following storm activity **Final Landform:** Quarterly / following storm activity	▪ Visual inspection for accumulated debris or blockage, at both upstream and downstream faces. ▪ Check every orifice / inlet / outlet / structure for blockage or siltation, pour water into each to verify through flow. ▪ Remove any debris and rod where required.
Petrol Interceptors (Where required)	**Soil Importation:** In accordance with manufacturer's specification(s) **Final Landform:** NA	▪ In accordance with manufacturers' specification(s)

Table 012: Drainage Inspection and Maintenance Schedule

6.0 CONCLUSIONS

6.1 An application is to be submitted for the import of c.57,000m³ of certified clean subsoil for agricultural improvement within a 5.63ha plot of land to the north east of Fromebridge Services, Whitminster, Gloucestershire, GL2 7PG.

6.2 This Flood Risk Assessment has been completed in accordance with the guidance set out in the NPPF, Section 14, and its accompanying PPG, for '*Less Vulnerable'* development within Flood Zone 1. The requirements of Local Planning Policy, including the SFRA, have also been accounted for within this assessment.

6.3 A scoping exercise has been completed which considers all potential flood risks, each of which have been fully assessed as part of this study and concluded to be Low, taking account of the development lifetime and climate change predictions.

6.4 Full surface water management is proposed in line with best practice for new development. The surface water attenuation requirements for the landform have been assessed using the WinDes Micro Drainage software package for return period rainfall events up to and including 100 years, taking account of existing and proposed runoff rates and climate change consideration at 40%, with a maximum storage calculated requirement of 905m³. Controlled gravitational discharge of stored water to local watercourses is proposed at greenfield rates.

6.5 All drainage networks have been designed to account for industry best practise with regards system capacity. Freeboard is provided to allow for successive rainfall events, fluctuations in flow and flood levels, climate change sensitivity and losses in efficiency associated with siltation.

6.6 It is anticipated that the provision of a formal Surface Water Management System, which incorporates on-site attenuation and controlled discharge, with water quality treatment using Sustainable Drainage (SuDS) methods, will ensure that potential detrimental impacts on flood risk and water quality, at the site and to third party property, are suitably mitigated throughout the development lifetime, as required by the National Planning Policy Framework and it's accompanying Planning Practice Guidance.

6.7 Smith's Ltd. will be responsible for the ongoing management and maintenance of the Surface Water Management System, throughout its lifetime.

6.8 The mitigation solutions noted within this report are subject to agreement with the Environment Agency, Stroud District Council and Gloucestershire County Council in its capacity as the Lead Local Flood Authority, as part of the application process.

6.9 It is duly presented that the proposed facility is appropriate within the context of the NPPF and Local Planning Policy.

7.0 CLOSURE

7.1 This report has been prepared by Amber Planning Ltd. with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with The Client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

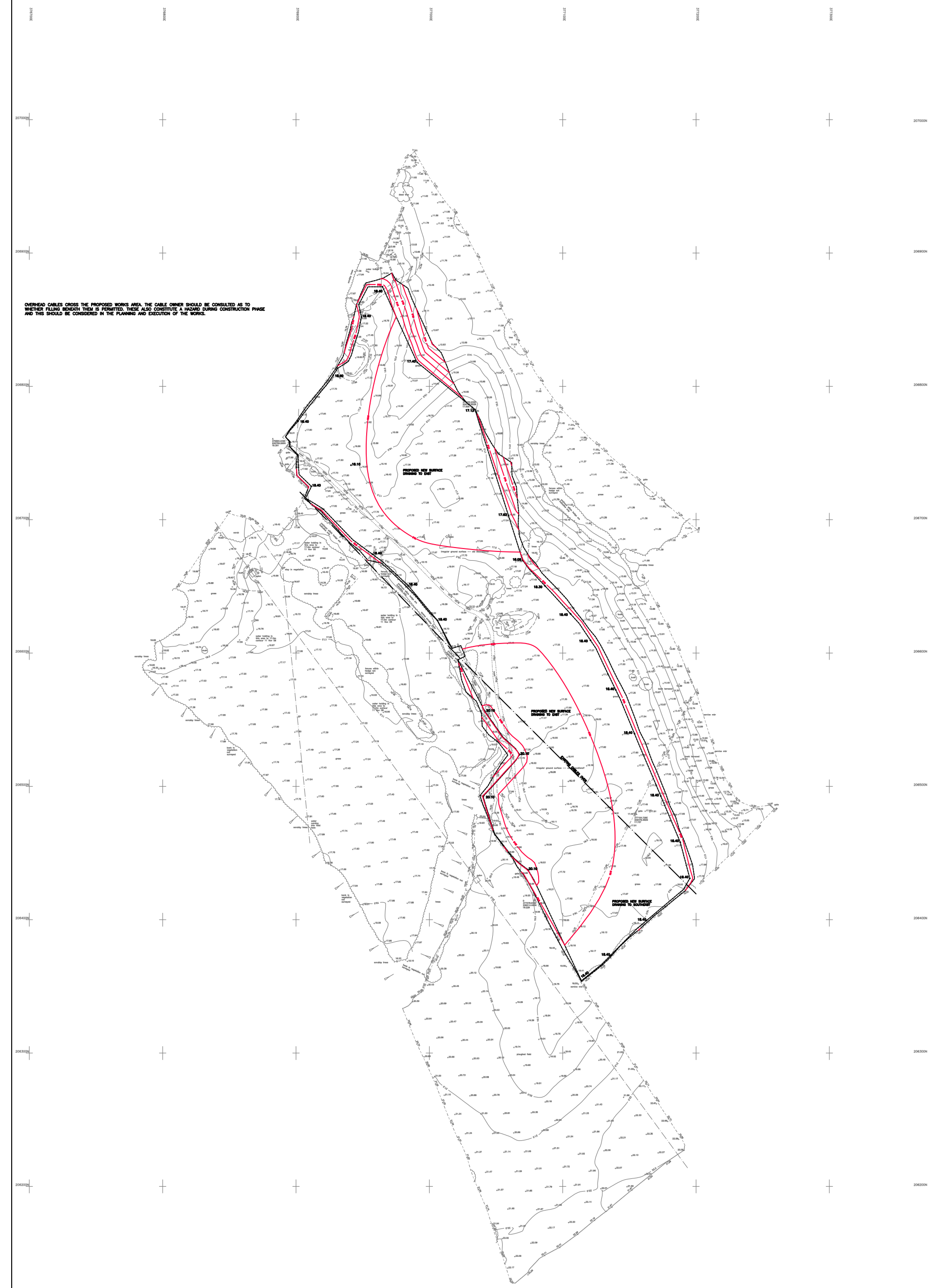
7.2 Reliance has been placed on factual and anecdotal data obtained from the sources identified. Amber Planning Ltd. cannot be held responsible for the scope of work, or any omissions, misrepresentation, errors or inaccuracies within the supplied information. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part in the event of delay between the writing of the report and its consideration by The Client, with particular regard to submission of a planning application.

7.3 This report is for the exclusive use of The Client; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from Amber Planning.

7.4 Amber Planning disclaims any responsibility to The Client and others in respect of any matters outside the agreed scope of the work.

Notes:
1. This drawing should only be used for its original intended purpose.
2. Critical dimensions, levels, clearances etc. should be checked on site before work commences.
3. Dimensions in metres unless otherwise stated.
4. The client is reminded of their duties under the CDM 2015 regulations.

OVERHEAD CABLES CROSS THE PROPOSED WORKS AREA. THE CABLE OWNER SHOULD BE CONSULTED AS TO WHETHER FILLING BENEATH THEM IS PERMITTED. THESE ALSO CONSTITUTE A HAZARD DURING CONSTRUCTION PHASE AND THIS SHOULD BE CONSIDERED IN THE PLANNING AND EXECUTION OF THE WORKS.



Revision	Comment	Date

ALAN WADE SITE ENGINEERING LIMITED
LAND SURVEYS AND VOLUMETRIC CALCULATIONS FOR EARTHMOVING OPERATIONS
32 HIGH STREET
CLAVERHAM
BRISTOL
BS49 4NE
TEL:01934 835903
REGISTERED IN ENGLAND AND WALES COMPANY NO. 3330910. REGISTERED OFFICE: THE MERE, HOUNDS RD, CHIPPING SODBURY, BRISTOL, BS37 6DZ

Project
LAND AT FROMEBRIDGE
GLOUCESTERSHIRE

Client
SMITHS

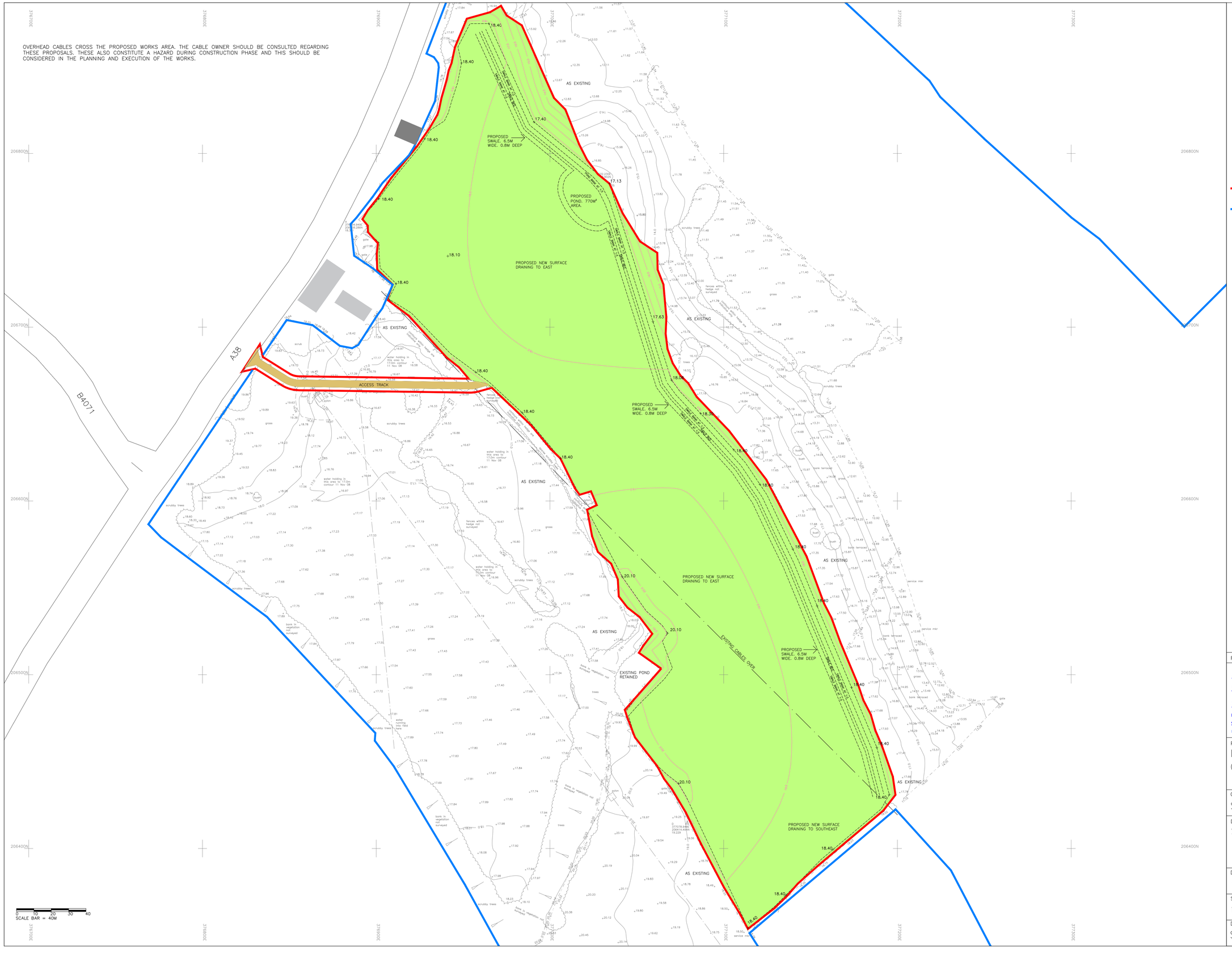
Drawing Title
PROPOSED LEVELS
SHOWN OVER 2008 SURVEY

Drawn Date	Surveyed Date
07/03/19	-

Scale	
1:1000	(AT A0)

Drawing Number	Rev
SM/244/01	-

OVERHEAD CABLES CROSS THE PROPOSED WORKS AREA. THE CABLE OWNER SHOULD BE CONSULTED REGARDING THESE PROPOSALS. THESE ALSO CONSTITUTE A HAZARD DURING CONSTRUCTION PHASE AND THIS SHOULD BE CONSIDERED IN THE PLANNING AND EXECUTION OF THE WORKS.



Notes:
1.This drawing should only be used for its original intended purpose.
2.Critical dimensions, levels, clearances etc. should be checked on site before work commences.
3.Dimensions in metres unless otherwise stated.
4.The client is reminded of their duties under the CDM 2015 regulations.
5.National Grid and OS Datum Newlyn used.

Application boundary

Other land under applicant's control

N

Revision	Comment	Date

ALAN WADE SITE ENGINEERING LIMITED
LAND SURVEYS AND VOLUMETRIC CALCULATIONS FOR EARTHMOVING OPERATIONS
surveys@awsel.co.uk
REGISTERED IN ENGLAND AND WALES COMPANY NO. 3338810. REGISTERED OFFICE: THE MEWS, HOLMES RD, CHIPPING SODBURY, BRISTOL BS37 6EE

Project
LAND AT FROMEBRIDGE
GLOUCESTERSHIRE

Client
SMITHS

Drawing Title
SITE PLAN

Drawn Date	Surveyed Date
19/09/20	–

Scale
1:1000 (AT A1)

Drawing Number
SM/244/02

FOR COMMENT ONLY
23/09/20

SO 70 NE/SS
7589
0743
55

Geotechnical Engineering Limited

TRIAL PIT LOG

PRZ62

CLIENT THE NATIONAL GRID COMPANY PLC

SITE BERKLEY - GLOUCESTER 132KV OHL (FRAMPTON-ON-SEVERN)

Sheet 1 of 1

Start Date 1st November 2000

Scale 1 : 25

End Date 1st November 2000

Depth (m) 4.00

water record	sample/test no/type	sample/test result	sample/test depth (m)	description	depth (m)	level (m)	legend
				TOPSOIL: Soft dark brown sandy CLAY with a little subangular to subrounded fine to medium limestone gravel with roots and rootlets.	0.15		
				Soft brown sandy CLAY with a little subangular to subrounded fine to coarse limestone gravel with abundant roots and rootlets upto 20mm diameter. East face of pit: with much gravel.			
	1B		1.00				
					2.00		
				Yellow-brown clayey very sandy subrounded fine to coarse limestone GRAVEL and occasional cobble.			
2.20m: moderate seepage	2B		2.20				
	3W		2.20				
					3.15		
				Stiff dark grey thinly laminated CLAY.			
	4D		3.50				
					3.85		
2.20m				Trial pit completed at 4.00m.			

Notes

Trial pit excavated by tracked excavator.
Trial pit sides remained stable.
Moderate groundwater seepage from 2.20m.
On completion, the trial pit was backfilled with arisings and the surface reinstated.

CONTRACT	CHECKED
11854	JT

18

SO 70 NE/54
7600
0732
54

Geotechnical Engineering Limited

TRIAL PIT LOG

DD47

CLIENT THE NATIONAL GRID COMPANY PLC

SITE BERKLEY - GLOUCESTER 132KV OHL (FRAMPTON-ON-SEVERN) Sheet 1 of 1

Start Date 1st November 2000 Scale 1 : 25

End Date 1st November 2000 Depth (m) 2.00

water record	sample/test no/type	sample/test result	sample/test depth (m)	description	depth (m)	level (m)	legend
				MADE GROUND: Soft brown-orange sandy CLAY with a little subangular fine to medium with roots and rootlets.			
					0.70		
	1B		0.80	MADE GROUND: Dark grey clayey sand with many bottles and gravel size glass and pottery fragments.			
	2W		0.90				
					1.40		
0.90m: high inflow				Yellow-brown very clayey sandy subrounded fine to coarse limestone GRAVEL.	1.55		
				Stiff green-grey CLAY.			
				Estimated	1.90		
				Stiff thinly laminated dark grey CLAY.	2.00		
0.90m				Trial pit refused at 2.00m.			

Notes

Trial pit excavated by tracked excavator.
Trial pit sides unstable.
High groundwater inflow, orange-red in colour, from 0.90m.
Attempted to bail out but ingress too great.
On completion, the trial pit was backfilled with arisings and the surface reinstated.

CONTRACT	CHECKED
11854	JL

BOREHOLE No. 218

So/70 NE/21

7725 627

BOREHOLE LOG

LOCATION No. 3606 BIRMINGHAM TO EXETER MOTORWAY
ROSS SPUR JUNCTION TO EAST BRENT

CARRIED OUT FOR: MINISTRY OF TRANSPORT

CONSULTING ENGINEERS: FREEMAN FOX & PARTNERS & R. F. EARLEY

TYPE OF BORING: H.Auger DIAMETER: 6in DATE: 7th Jan. 1961

CHAINAGE: 15/691+90 GROUND LEVEL 64.8ft. N.D. PAVEMENT LEVEL 62.8ft. N.D

Description	Legend	Sample	Depth	m%	Test Results & Notes
					Water seepage at 5'3" below ground level
Ground Level			0ft. 0in.		
TOPSOIL		1	1'6" (0.46m)	58	
Firm brown sandy gravelly CLAY (Downwash)		2		21	
		3(B)		19	C 1380; ρw 130
		4(B)		23	CBR 1.3; Va 2; classn CI
sandy gravel		5			
		6(B)	5'6" (1.68m)	33	
		7			
Stiff blue silty CLAY (Lower Lias)		8(B)			
		9(B)	10'0" (3.1m)		
			END OF BOREHOLE		

LOG for BOREHOLE No. 94

Fig.

Location No. 4535

50/70 NE/20

Sheet 1 **of** 1

Carried out using Mechanical Auger

7738628

Date February 1965

Description	Reduced Level: ft.	Legend	Sample	Depth ft. in.	Thickness ft. in.	Standard Penetration test: Depth and Penetration ft. in.	Standard Penetration test: No. of Blows (N)	m %
Ground Level (Ft. above N.D.)	41.5			0 0				
TOPSOIL.	40.5			1 0 (0.3m)	1 0			
Brown extremely gravelly sandy CLAY.(Stroudwater Alluvial Deposit).			△ 4		3 0			–
			● 1					20
Coarse sandy fine to medium GRAVEL (Stroudwater Alluvial Deposit)	37.5			4 0 (1.2m)				
	36.0		2	5 6 (1.65m)	1 6			22
Hard blue silty CLAY. (Lower Lias)					7 3 Pene-trated			
	28.7		3	12 9 (3.85m)				26
		END OF BOREHOLE						

Water encountered at 2ft 6ins.

SOIL MECHANICS LTD., 49 Old Church Street, London, S.W.1

ICP SUDS Mean Annual Flood

Input

Return Period (years)	100	Soil	0.320
Area (ha)	50.000	Urban	0.035
SAAR (mm)	877	Region Number	Region 4

Results l/s

QBAR Rural	136.5
QBAR Urban	145.1
Q100 years	364.9
Q1 year	120.4
Q30 years	281.2
Q100 years	364.9

Summary of Results for 2 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	0.082	0.082	3.9	0.0	3.9	140.3	O K
30 min Summer	0.103	0.103	5.5	0.0	5.5	176.5	O K
60 min Summer	0.128	0.128	7.6	0.0	7.6	218.8	O K
120 min Summer	0.153	0.153	10.2	0.0	10.2	262.7	O K
180 min Summer	0.165	0.165	11.5	0.0	11.5	284.5	O K
240 min Summer	0.173	0.173	12.3	0.0	12.3	298.8	O K
360 min Summer	0.185	0.185	13.5	0.0	13.5	319.4	O K
480 min Summer	0.192	0.192	14.3	0.0	14.3	332.5	O K
600 min Summer	0.197	0.197	14.8	0.0	14.8	340.7	O K
720 min Summer	0.200	0.200	15.1	0.0	15.1	345.7	O K
960 min Summer	0.205	0.205	15.6	0.0	15.6	356.3	O K
1440 min Summer	0.208	0.208	15.8	0.0	15.8	361.5	O K
2160 min Summer	0.204	0.204	15.6	0.0	15.6	353.8	O K
2880 min Summer	0.197	0.197	14.8	0.0	14.8	341.9	O K
4320 min Summer	0.174	0.174	12.4	0.0	12.4	300.3	O K
5760 min Summer	0.158	0.158	10.7	0.0	10.7	271.2	O K
7200 min Summer	0.145	0.145	9.4	0.0	9.4	249.6	O K
8640 min Summer	0.136	0.136	8.4	0.0	8.4	232.8	O K
10080 min Summer	0.128	0.128	7.7	0.0	7.7	219.3	O K
15 min Winter	0.092	0.092	4.7	0.0	4.7	156.9	O K
30 min Winter	0.115	0.115	6.4	0.0	6.4	197.4	O K
60 min Winter	0.142	0.142	9.1	0.0	9.1	244.6	O K
120 min Winter	0.170	0.170	12.0	0.0	12.0	293.7	O K

Storm Event	Rain (mm/hr)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	46.850	0.0	34
30 min Summer	29.904	0.0	47
60 min Summer	19.087	0.0	74
120 min Summer	12.183	0.0	126
180 min Summer	9.369	0.0	176
240 min Summer	7.777	0.0	202
360 min Summer	5.980	0.0	262
480 min Summer	4.964	0.0	330
600 min Summer	4.296	0.0	396
720 min Summer	3.817	0.0	464
960 min Summer	3.236	0.0	596
1440 min Summer	2.565	0.0	858
2160 min Summer	2.032	0.0	1236
2880 min Summer	1.723	0.0	1600
4320 min Summer	1.262	0.0	2340
5760 min Summer	1.012	0.0	3064
7200 min Summer	0.853	0.0	3816
8640 min Summer	0.741	0.0	4512
10080 min Summer	0.659	0.0	5256
15 min Winter	46.850	0.0	33
30 min Winter	29.904	0.0	47
60 min Winter	19.087	0.0	72
120 min Winter	12.183	0.0	124

Summary of Results for 2 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
180 min Winter	0.184	0.184	13.5	0.0	13.5	318.3	O K
240 min Winter	0.192	0.192	14.3	0.0	14.3	332.7	O K
360 min Winter	0.203	0.203	15.5	0.0	15.5	352.5	O K
480 min Winter	0.209	0.209	15.8	0.0	15.8	362.7	O K
600 min Winter	0.212	0.212	16.0	0.0	16.0	367.3	O K
720 min Winter	0.212	0.212	16.0	0.0	16.0	368.3	O K
960 min Winter	0.214	0.214	16.1	0.0	16.1	371.8	O K
1440 min Winter	0.210	0.210	15.9	0.0	15.9	363.6	O K
2160 min Winter	0.198	0.198	14.9	0.0	14.9	342.5	O K
2880 min Winter	0.186	0.186	13.7	0.0	13.7	322.2	O K
4320 min Winter	0.159	0.159	10.8	0.0	10.8	273.9	O K
5760 min Winter	0.141	0.141	9.0	0.0	9.0	242.9	O K
7200 min Winter	0.129	0.129	7.7	0.0	7.7	220.8	O K
8640 min Winter	0.119	0.119	6.8	0.0	6.8	204.2	O K
10080 min Winter	0.111	0.111	6.0	0.0	6.0	190.0	O K

Storm Event	Rain (mm/hr)	Overflow Volume (m³)	Time-Peak (mins)
180 min Winter	9.369	0.0	176
240 min Winter	7.777	0.0	204
360 min Winter	5.980	0.0	276
480 min Winter	4.964	0.0	352
600 min Winter	4.296	0.0	426
720 min Winter	3.817	0.0	498
960 min Winter	3.236	0.0	638
1440 min Winter	2.565	0.0	904
2160 min Winter	2.032	0.0	1284
2880 min Winter	1.723	0.0	1660
4320 min Winter	1.262	0.0	2392
5760 min Winter	1.012	0.0	3128
7200 min Winter	0.853	0.0	3888
8640 min Winter	0.741	0.0	4600
10080 min Winter	0.659	0.0	5360

Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.251	Cv (Winter)	0.840
Return Period (years)	2	E (1km)	0.298	Shortest Storm (mins)	15
Site Location		F (1km)	2.406	Longest Storm (mins)	10080
C (1km)	-0.027	Summer Storms	Yes	Climate Change %	+40
D1 (1km)	0.371	Winter Storms	Yes		
D2 (1km)	0.445	Cv (Summer)	0.750		

Time / Area Diagram

Total Area (ha) 1.633

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.326	4-8	0.326	8-12	0.327	12-16	0.327	16-20	0.327

Model Details

Storage is Online Cover Level (m) 0.800

Tank or Pond Structure

Invert Level (m) 0.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1680.0	0.800	2100.0

Orifice Outflow Control

Diameter (m) 0.143 Discharge Coefficient 0.600 Invert Level (m) 0.000

Orifice Overflow Control

Diameter (m) 0.124 Discharge Coefficient 0.600 Invert Level (m) 0.270

Summary of Results for 30 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	0.197	0.197	14.8	0.0	14.8	341.0	O K
30 min Summer	0.234	0.234	17.2	0.0	17.2	406.9	O K
60 min Summer	0.274	0.274	19.2	0.0	19.2	479.5	O K
120 min Summer	0.311	0.311	20.9	0.9	21.8	548.7	O K
180 min Summer	0.327	0.327	21.6	1.6	23.2	577.8	O K
240 min Summer	0.336	0.336	21.9	2.3	24.2	594.0	O K
360 min Summer	0.347	0.347	22.4	3.1	25.5	615.1	O K
480 min Summer	0.353	0.353	22.7	3.5	26.1	626.0	O K
600 min Summer	0.355	0.355	22.7	3.6	26.3	630.2	O K
720 min Summer	0.355	0.355	22.7	3.6	26.3	630.3	O K
960 min Summer	0.358	0.358	22.9	3.7	26.6	635.4	O K
1440 min Summer	0.353	0.353	22.6	3.4	26.1	625.2	O K
2160 min Summer	0.336	0.336	22.0	2.3	24.3	595.0	O K
2880 min Summer	0.319	0.319	21.2	1.2	22.5	561.9	O K
4320 min Summer	0.263	0.263	18.7	0.0	18.7	459.9	O K
5760 min Summer	0.224	0.224	16.7	0.0	16.7	389.3	O K
7200 min Summer	0.199	0.199	15.0	0.0	15.0	345.0	O K
8640 min Summer	0.183	0.183	13.4	0.0	13.4	316.3	O K
10080 min Summer	0.170	0.170	12.0	0.0	12.0	293.5	O K
15 min Winter	0.220	0.220	16.4	0.0	16.4	381.6	O K
30 min Winter	0.261	0.261	18.6	0.0	18.6	456.3	O K
60 min Winter	0.306	0.306	20.7	0.7	21.3	538.4	O K
120 min Winter	0.347	0.347	22.4	3.1	25.5	615.1	O K

Storm Event	Rain (mm/hr)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	115.543	0.0	33
30 min Summer	70.128	0.0	46
60 min Summer	42.563	0.0	72
120 min Summer	25.833	2.8	126
180 min Summer	19.290	8.4	178
240 min Summer	15.679	14.7	204
360 min Summer	11.708	24.7	264
480 min Summer	9.516	30.4	332
600 min Summer	8.103	33.2	400
720 min Summer	7.106	34.2	468
960 min Summer	5.900	39.3	604
1440 min Summer	4.540	40.2	868
2160 min Summer	3.493	29.5	1256
2880 min Summer	2.900	16.4	1640
4320 min Summer	2.063	0.0	2384
5760 min Summer	1.620	0.0	3072
7200 min Summer	1.343	0.0	3768
8640 min Summer	1.152	0.0	4504
10080 min Summer	1.012	0.0	5248
15 min Winter	115.543	0.0	33
30 min Winter	70.128	0.0	46
60 min Winter	42.563	1.4	72
120 min Winter	25.833	12.5	124

Summary of Results for 30 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
180 min Winter	0.365	0.365	23.1	4.1	27.2	647.3	O K
240 min Winter	0.372	0.372	23.4	4.7	28.1	662.0	O K
360 min Winter	0.382	0.382	23.8	5.5	29.3	680.3	O K
480 min Winter	0.384	0.384	23.9	5.6	29.5	684.5	O K
600 min Winter	0.383	0.383	23.8	5.5	29.3	681.3	O K
720 min Winter	0.379	0.379	23.7	5.2	28.8	674.0	O K
960 min Winter	0.375	0.375	23.5	4.9	28.4	666.2	O K
1440 min Winter	0.358	0.358	22.8	3.7	26.6	634.8	O K
2160 min Winter	0.330	0.330	21.7	1.8	23.5	582.9	O K
2880 min Winter	0.302	0.302	20.5	0.6	21.1	532.0	O K
4320 min Winter	0.232	0.232	17.1	0.0	17.1	404.1	O K
5760 min Winter	0.194	0.194	14.5	0.0	14.5	336.6	O K
7200 min Winter	0.173	0.173	12.3	0.0	12.3	298.6	O K
8640 min Winter	0.158	0.158	10.7	0.0	10.7	271.2	O K
10080 min Winter	0.146	0.146	9.4	0.0	9.4	250.5	O K

Storm Event	Rain (mm/hr)	Overflow Volume (m³)	Time-Peak (mins)
180 min Winter	19.290	24.6	176
240 min Winter	15.679	34.7	206
360 min Winter	11.708	49.6	278
480 min Winter	9.516	58.2	354
600 min Winter	8.103	61.9	428
720 min Winter	7.106	62.0	500
960 min Winter	5.900	64.7	642
1440 min Winter	4.540	56.9	916
2160 min Winter	3.493	29.9	1320
2880 min Winter	2.900	8.5	1712
4320 min Winter	2.063	0.0	2436
5760 min Winter	1.620	0.0	3120
7200 min Winter	1.343	0.0	3832
8640 min Winter	1.152	0.0	4584
10080 min Winter	1.012	0.0	5264

Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.251	Cv (Winter)	0.840
Return Period (years)	30	E (1km)	0.298	Shortest Storm (mins)	15
Site Location		F (1km)	2.406	Longest Storm (mins)	10080
C (1km)	-0.027	Summer Storms	Yes	Climate Change %	+40
D1 (1km)	0.371	Winter Storms	Yes		
D2 (1km)	0.445	Cv (Summer)	0.750		

Time / Area Diagram

Total Area (ha) 1.633

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.326	4-8	0.326	8-12	0.327	12-16	0.327	16-20	0.327

Model Details

Storage is Online Cover Level (m) 0.800

Tank or Pond Structure

Invert Level (m) 0.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1680.0	0.800	2100.0

Orifice Outflow Control

Diameter (m) 0.143 Discharge Coefficient 0.600 Invert Level (m) 0.000

Orifice Overflow Control

Diameter (m) 0.124 Discharge Coefficient 0.600 Invert Level (m) 0.270

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	0.291	0.291	20.0	0.2	20.3	512.0	O K
30 min Summer	0.338	0.338	22.0	2.5	24.5	598.0	O K
60 min Summer	0.385	0.385	23.9	5.7	29.6	686.6	O K
120 min Summer	0.425	0.425	25.4	9.0	34.4	760.8	O K
180 min Summer	0.438	0.438	25.8	10.1	35.9	785.8	O K
240 min Summer	0.445	0.445	26.1	10.7	36.8	800.5	O K
360 min Summer	0.454	0.454	26.4	11.2	37.6	817.4	O K
480 min Summer	0.457	0.457	26.5	11.3	37.8	822.4	O K
600 min Summer	0.456	0.456	26.5	11.3	37.7	820.2	O K
720 min Summer	0.452	0.452	26.3	11.1	37.5	813.9	O K
960 min Summer	0.451	0.451	26.3	11.1	37.3	810.3	O K
1440 min Summer	0.437	0.437	25.8	10.0	35.8	784.2	O K
2160 min Summer	0.412	0.412	24.9	7.9	32.8	735.9	O K
2880 min Summer	0.388	0.388	24.0	5.9	29.9	691.3	O K
4320 min Summer	0.326	0.326	21.5	1.6	23.1	575.9	O K
5760 min Summer	0.277	0.277	19.4	0.0	19.4	486.3	O K
7200 min Summer	0.239	0.239	17.5	0.0	17.5	416.8	O K
8640 min Summer	0.212	0.212	16.0	0.0	16.0	368.3	O K
10080 min Summer	0.195	0.195	14.6	0.0	14.6	337.6	O K
15 min Winter	0.325	0.325	21.5	1.5	23.0	573.6	O K
30 min Winter	0.376	0.376	23.6	5.0	28.5	669.6	O K
60 min Winter	0.429	0.429	25.5	9.3	34.8	768.2	O K
120 min Winter	0.473	0.473	27.0	12.0	39.1	852.8	O K

Storm Event	Rain (mm/hr)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	173.726	0.3	33
30 min Summer	103.069	6.2	46
60 min Summer	61.149	25.2	72
120 min Summer	36.279	58.8	124
180 min Summer	26.731	83.8	166
240 min Summer	21.524	102.7	194
360 min Summer	15.859	128.5	260
480 min Summer	12.770	143.7	328
600 min Summer	10.794	152.1	396
720 min Summer	9.409	155.6	464
960 min Summer	7.739	165.5	596
1440 min Summer	5.876	165.1	860
2160 min Summer	4.462	145.4	1244
2880 min Summer	3.670	117.8	1624
4320 min Summer	2.576	28.3	2384
5760 min Summer	2.003	0.2	3120
7200 min Summer	1.649	0.0	3824
8640 min Summer	1.406	0.0	4512
10080 min Summer	1.229	0.0	5248
15 min Winter	173.726	3.1	33
30 min Winter	103.069	18.2	46
60 min Winter	61.149	49.1	72
120 min Winter	36.279	93.8	124

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
180 min Winter	0.488	0.488	27.6	12.7	40.2	882.7	O K
240 min Winter	0.494	0.494	27.8	12.9	40.7	894.9	O K
360 min Winter	0.500	0.500	27.9	13.2	41.1	905.7	O K
480 min Winter	0.497	0.497	27.9	13.0	40.9	900.2	O K
600 min Winter	0.490	0.490	27.6	12.8	40.4	886.7	O K
720 min Winter	0.481	0.481	27.3	12.4	39.7	869.2	O K
960 min Winter	0.470	0.470	26.9	11.9	38.8	847.1	O K
1440 min Winter	0.441	0.441	26.0	10.4	36.4	792.3	O K
2160 min Winter	0.403	0.403	24.6	7.1	31.7	719.0	O K
2880 min Winter	0.370	0.370	23.3	4.5	27.8	658.4	O K
4320 min Winter	0.296	0.296	20.2	0.4	20.6	520.0	O K
5760 min Winter	0.235	0.235	17.3	0.0	17.3	409.9	O K
7200 min Winter	0.200	0.200	15.1	0.0	15.1	346.1	O K
8640 min Winter	0.180	0.180	13.0	0.0	13.0	311.2	O K
10080 min Winter	0.165	0.165	11.5	0.0	11.5	285.1	O K

Storm Event	Rain (mm/hr)	Overflow Volume (m³)	Time-Peak (mins)
180 min Winter	26.731	123.3	176
240 min Winter	21.524	145.1	202
360 min Winter	15.859	175.6	276
480 min Winter	12.770	195.4	352
600 min Winter	10.794	207.3	426
720 min Winter	9.409	212.9	496
960 min Winter	7.739	225.8	636
1440 min Winter	5.876	216.2	904
2160 min Winter	4.462	171.9	1300
2880 min Winter	3.670	119.2	1688
4320 min Winter	2.576	6.6	2476
5760 min Winter	2.003	0.0	3184
7200 min Winter	1.649	0.0	3832
8640 min Winter	1.406	0.0	4584
10080 min Winter	1.229	0.0	5264

Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.251	Cv (Winter)	0.840
Return Period (years)	100	E (1km)	0.298	Shortest Storm (mins)	15
Site Location		F (1km)	2.406	Longest Storm (mins)	10080
C (1km)	-0.027	Summer Storms	Yes	Climate Change %	+40
D1 (1km)	0.371	Winter Storms	Yes		
D2 (1km)	0.445	Cv (Summer)	0.750		

Time / Area Diagram

Total Area (ha) 1.633

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.326	4-8	0.326	8-12	0.327	12-16	0.327	16-20	0.327

Model Details

Storage is Online Cover Level (m) 0.800

Tank or Pond Structure

Invert Level (m) 0.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	1680.0	0.800	2100.0

Orifice Outflow Control

Diameter (m) 0.143 Discharge Coefficient 0.600 Invert Level (m) 0.000

Orifice Overflow Control

Diameter (m) 0.124 Discharge Coefficient 0.600 Invert Level (m) 0.270

Summary of Results for 2 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	0.021	0.021	0.3	11.1	O K
30 min Summer	0.027	0.027	0.5	14.0	O K
60 min Summer	0.032	0.032	0.7	16.8	O K
120 min Summer	0.038	0.038	0.9	20.4	O K
180 min Summer	0.042	0.042	1.1	22.6	O K
240 min Summer	0.046	0.046	1.3	24.2	O K
360 min Summer	0.051	0.051	1.6	27.1	O K
480 min Summer	0.055	0.055	1.9	29.2	O K
600 min Summer	0.058	0.058	2.1	30.7	O K
720 min Summer	0.060	0.060	2.2	32.0	O K
960 min Summer	0.064	0.064	2.6	34.5	O K
1440 min Summer	0.070	0.070	3.0	37.5	O K
2160 min Summer	0.074	0.074	3.3	39.8	O K
2880 min Summer	0.076	0.076	3.5	40.8	O K
4320 min Summer	0.076	0.076	3.5	40.8	O K
5760 min Summer	0.076	0.076	3.5	40.8	O K
7200 min Summer	0.076	0.076	3.5	40.8	O K
8640 min Summer	0.076	0.076	3.5	40.5	O K
10080 min Summer	0.075	0.075	3.4	40.2	O K
15 min Winter	0.023	0.023	0.4	12.4	O K
30 min Winter	0.029	0.029	0.5	15.3	O K
60 min Winter	0.035	0.035	0.8	18.4	O K
120 min Winter	0.042	0.042	1.1	22.1	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	46.850	1148
30 min Summer	29.904	1057
60 min Summer	19.087	944
120 min Summer	12.183	886
180 min Summer	9.369	820
240 min Summer	7.777	742
360 min Summer	5.980	806
480 min Summer	4.964	868
600 min Summer	4.296	874
720 min Summer	3.817	956
960 min Summer	3.236	1092
1440 min Summer	2.565	1466
2160 min Summer	2.032	1896
2880 min Summer	1.723	2252
4320 min Summer	1.262	3160
5760 min Summer	1.012	3896
7200 min Summer	0.853	4664
8640 min Summer	0.741	5424
10080 min Summer	0.659	6264
15 min Winter	46.850	1196
30 min Winter	29.904	1048
60 min Winter	19.087	830
120 min Winter	12.183	738

Summary of Results for 2 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
180 min Winter	0.046	0.046	1.4	24.5	O K
240 min Winter	0.050	0.050	1.6	26.4	O K
360 min Winter	0.055	0.055	1.9	29.4	O K
480 min Winter	0.059	0.059	2.2	31.5	O K
600 min Winter	0.062	0.062	2.4	33.1	O K
720 min Winter	0.064	0.064	2.6	34.5	O K
960 min Winter	0.069	0.069	3.0	37.1	O K
1440 min Winter	0.075	0.075	3.4	40.1	O K
2160 min Winter	0.090	0.090	5.0	48.2	O K
2880 min Winter	0.111	0.111	7.6	60.4	O K
4320 min Winter	0.103	0.103	6.8	55.7	O K
5760 min Winter	0.095	0.095	5.7	51.3	O K
7200 min Winter	0.087	0.087	4.7	46.9	O K
8640 min Winter	0.076	0.076	3.5	40.8	O K
10080 min Winter	0.076	0.076	3.5	40.8	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
180 min Winter	9.369	728
240 min Winter	7.777	732
360 min Winter	5.980	762
480 min Winter	4.964	830
600 min Winter	4.296	860
720 min Winter	3.817	930
960 min Winter	3.236	1078
1440 min Winter	2.565	1464
2160 min Winter	2.032	1620
2880 min Winter	1.723	1940
4320 min Winter	1.262	2780
5760 min Winter	1.012	3672
7200 min Winter	0.853	4616
8640 min Winter	0.741	6096
10080 min Winter	0.659	6776

Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.251	Cv (Winter)	0.840
Return Period (years)	2	E (1km)	0.298	Shortest Storm (mins)	15
Site Location		F (1km)	2.406	Longest Storm (mins)	10080
C (1km)	-0.027	Summer Storms	Yes	Climate Change %	+40
D1 (1km)	0.371	Winter Storms	Yes		
D2 (1km)	0.445	Cv (Summer)	0.750		

Pipe Network

Volume in Pipe Network (m^3)	750	Dia of Outfall Pipe (m)	0.1
Slope of Outfall Pipe (1:X)	500	Roughness of Outfall Pipe (mm)	0.040

Time / Area Diagram

Total Area (ha) 1.633

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.326	4-8	0.326	8-12	0.327	12-16	0.327	16-20	0.327

Model Details

Storage is Online Cover Level (m) 0.800

Tank or Pond Structure

Invert Level (m) 0.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	525.0	0.800	770.0

Orifice Outflow Control

Diameter (m) 0.175 Discharge Coefficient 0.600 Invert Level (m) 0.000

Summary of Results for 30 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	0.043	0.043	1.2	23.0	O K
30 min Summer	0.050	0.050	1.6	26.6	O K
60 min Summer	0.057	0.057	2.0	30.6	O K
120 min Summer	0.065	0.065	2.7	34.8	O K
180 min Summer	0.070	0.070	3.0	37.4	O K
240 min Summer	0.073	0.073	3.3	39.2	O K
360 min Summer	0.130	0.130	9.4	70.8	O K
480 min Summer	0.150	0.150	11.8	82.3	O K
600 min Summer	0.165	0.165	13.8	90.7	O K
720 min Summer	0.179	0.179	15.7	98.7	O K
960 min Summer	0.217	0.217	21.1	120.9	O K
1440 min Summer	0.251	0.251	25.8	141.3	O K
2160 min Summer	0.263	0.263	26.8	148.9	O K
2880 min Summer	0.264	0.264	26.8	149.1	O K
4320 min Summer	0.223	0.223	22.0	124.8	O K
5760 min Summer	0.197	0.197	18.2	109.1	O K
7200 min Summer	0.178	0.178	15.6	98.3	O K
8640 min Summer	0.164	0.164	13.6	90.0	O K
10080 min Summer	0.152	0.152	12.1	83.4	O K
15 min Winter	0.047	0.047	1.4	25.0	O K
30 min Winter	0.054	0.054	1.8	29.1	O K
60 min Winter	0.062	0.062	2.4	32.9	O K
120 min Winter	0.070	0.070	3.0	37.4	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	115.543	702
30 min Summer	70.128	639
60 min Summer	42.563	596
120 min Summer	25.833	566
180 min Summer	19.290	606
240 min Summer	15.679	646
360 min Summer	11.708	366
480 min Summer	9.516	448
600 min Summer	8.103	472
720 min Summer	7.106	516
960 min Summer	5.900	624
1440 min Summer	4.540	868
2160 min Summer	3.493	1232
2880 min Summer	2.900	1584
4320 min Summer	2.063	2300
5760 min Summer	1.620	3016
7200 min Summer	1.343	3752
8640 min Summer	1.152	4496
10080 min Summer	1.012	5248
15 min Winter	115.543	649
30 min Winter	70.128	625
60 min Winter	42.563	532
120 min Winter	25.833	574

Summary of Results for 30 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
180 min Winter	0.069	0.069	3.0	37.2	O K
240 min Winter	0.149	0.149	11.6	81.6	O K
360 min Winter	0.195	0.195	17.9	108.2	O K
480 min Winter	0.223	0.223	22.0	124.7	O K
600 min Winter	0.243	0.243	24.8	136.6	O K
720 min Winter	0.254	0.254	26.1	143.2	O K
960 min Winter	0.281	0.281	28.1	159.6	O K
1440 min Winter	0.292	0.292	28.9	166.1	O K
2160 min Winter	0.271	0.271	27.4	153.4	O K
2880 min Winter	0.247	0.247	25.3	139.0	O K
4320 min Winter	0.202	0.202	19.0	112.3	O K
5760 min Winter	0.175	0.175	15.1	96.5	O K
7200 min Winter	0.157	0.157	12.7	86.1	O K
8640 min Winter	0.144	0.144	10.9	78.5	O K
10080 min Winter	0.132	0.132	9.6	71.8	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
180 min Winter	19.290	194
240 min Winter	15.679	244
360 min Winter	11.708	344
480 min Winter	9.516	372
600 min Winter	8.103	440
720 min Winter	7.106	510
960 min Winter	5.900	644
1440 min Winter	4.540	896
2160 min Winter	3.493	1256
2880 min Winter	2.900	1592
4320 min Winter	2.063	2300
5760 min Winter	1.620	3016
7200 min Winter	1.343	3752
8640 min Winter	1.152	4496
10080 min Winter	1.012	5248

Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.251	Cv (Winter)	0.840
Return Period (years)	30	E (1km)	0.298	Shortest Storm (mins)	15
Site Location		F (1km)	2.406	Longest Storm (mins)	10080
C (1km)	-0.027	Summer Storms	Yes	Climate Change %	+40
D1 (1km)	0.371	Winter Storms	Yes		
D2 (1km)	0.445	Cv (Summer)	0.750		

Pipe Network

Volume in Pipe Network (m^3)	750	Dia of Outfall Pipe (m)	0.1
Slope of Outfall Pipe (1:X)	500	Roughness of Outfall Pipe (mm)	0.040

Time / Area Diagram

Total Area (ha) 1.633

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.326	4-8	0.326	8-12	0.327	12-16	0.327	16-20	0.327

Model Details

Storage is Online Cover Level (m) 0.800

Tank or Pond Structure

Invert Level (m) 0.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	525.0	0.800	770.0

Orifice Outflow Control

Diameter (m) 0.175 Discharge Coefficient 0.600 Invert Level (m) 0.000

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	0.058	0.058	2.1	31.0	O K
30 min Summer	0.065	0.065	2.6	34.7	O K
60 min Summer	0.072	0.072	3.2	38.7	O K
120 min Summer	0.187	0.187	16.8	103.3	O K
180 min Summer	0.247	0.247	25.3	138.9	O K
240 min Summer	0.277	0.277	27.8	157.2	O K
360 min Summer	0.326	0.326	31.2	187.2	O K
480 min Summer	0.362	0.362	33.5	210.1	O K
600 min Summer	0.384	0.384	34.8	224.4	O K
720 min Summer	0.397	0.397	35.5	232.5	O K
960 min Summer	0.430	0.430	37.4	254.4	O K
1440 min Summer	0.448	0.448	38.4	265.9	O K
2160 min Summer	0.435	0.435	37.7	257.5	O K
2880 min Summer	0.403	0.403	35.9	236.7	O K
4320 min Summer	0.303	0.303	29.7	172.9	O K
5760 min Summer	0.247	0.247	25.3	138.8	O K
7200 min Summer	0.219	0.219	21.3	122.1	O K
8640 min Summer	0.198	0.198	18.4	109.9	O K
10080 min Summer	0.182	0.182	16.2	100.7	O K
15 min Winter	0.063	0.063	2.5	33.4	O K
30 min Winter	0.070	0.070	3.0	37.3	O K
60 min Winter	0.140	0.140	10.4	76.4	O K
120 min Winter	0.290	0.290	28.8	165.1	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	173.726	530
30 min Summer	103.069	539
60 min Summer	61.149	542
120 min Summer	36.279	132
180 min Summer	26.731	184
240 min Summer	21.524	222
360 min Summer	15.859	272
480 min Summer	12.770	336
600 min Summer	10.794	400
720 min Summer	9.409	466
960 min Summer	7.739	596
1440 min Summer	5.876	850
2160 min Summer	4.462	1212
2880 min Summer	3.670	1564
4320 min Summer	2.576	2260
5760 min Summer	2.003	2952
7200 min Summer	1.649	3680
8640 min Summer	1.406	4408
10080 min Summer	1.229	5144
15 min Winter	173.726	542
30 min Winter	103.069	517
60 min Winter	61.149	76
120 min Winter	36.279	126

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
180 min Winter	0.385	0.385	34.9	225.0	O K
240 min Winter	0.412	0.412	36.4	242.3	O K
360 min Winter	0.461	0.461	39.1	274.9	O K
480 min Winter	0.489	0.489	40.5	293.6	O K
600 min Winter	0.496	0.496	40.8	298.1	O K
720 min Winter	0.492	0.492	40.6	295.3	O K
960 min Winter	0.499	0.499	41.0	299.8	O K
1440 min Winter	0.470	0.470	39.5	280.6	O K
2160 min Winter	0.401	0.401	35.8	235.4	O K
2880 min Winter	0.341	0.341	32.2	196.6	O K
4320 min Winter	0.240	0.240	24.4	135.0	O K
5760 min Winter	0.203	0.203	19.1	113.1	O K
7200 min Winter	0.180	0.180	15.8	99.2	O K
8640 min Winter	0.163	0.163	13.5	89.6	O K
10080 min Winter	0.150	0.150	11.8	82.4	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
180 min Winter	26.731	178
240 min Winter	21.524	220
360 min Winter	15.859	278
480 min Winter	12.770	352
600 min Winter	10.794	424
720 min Winter	9.409	494
960 min Winter	7.739	628
1440 min Winter	5.876	882
2160 min Winter	4.462	1244
2880 min Winter	3.670	1588
4320 min Winter	2.576	2252
5760 min Winter	2.003	2952
7200 min Winter	1.649	3680
8640 min Winter	1.406	4416
10080 min Winter	1.229	5144

Rainfall Details

Rainfall Model	FEH	D3 (1km)	0.251	Cv (Winter)	0.840
Return Period (years)	100	E (1km)	0.298	Shortest Storm (mins)	15
Site Location		F (1km)	2.406	Longest Storm (mins)	10080
C (1km)	-0.027	Summer Storms	Yes	Climate Change %	+40
D1 (1km)	0.371	Winter Storms	Yes		
D2 (1km)	0.445	Cv (Summer)	0.750		

Pipe Network

Volume in Pipe Network (m^3)	750	Dia of Outfall Pipe (m)	0.1
Slope of Outfall Pipe (1:X)	500	Roughness of Outfall Pipe (mm)	0.040

Time / Area Diagram

Total Area (ha) 1.633

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.326	4-8	0.326	8-12	0.327	12-16	0.327	16-20	0.327

Model Details

Storage is Online Cover Level (m) 0.800

Tank or Pond Structure

Invert Level (m) 0.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	525.0	0.800	770.0

Orifice Outflow Control

Diameter (m) 0.175 Discharge Coefficient 0.600 Invert Level (m) 0.000

Job Name:	Fromebridge, Stroud	Job N$^{o.}$	IMA-19-217
Date:	September 2020	Client:	Smiths (Gloucester) Ltd

Transport Statement: Land East of A38 at Fromebridge, Stroud

1 Introduction

1.1 This Transport Statement has been prepared to support a planning application to improve agricultural land over former mineral workings to the east of the A38 near the Fromebridge Service Station in the district of Stroud, Gloucestershire.

1.2 Pre-application comments from Stroud District Council dated 13th November 2019 included the following paragraph on highway matters:

> *The site is located near to the A38 and the busy Frampton junction. With the proximity of the junction and the petrol station as discussed highway safety will be an important consideration which will be raised as a significant local concern. The site has approval for a new access which you intend to use for this proposal. Your submission would need to outline the trip generation proposed and demonstrate that the appropriate visibility splays can be achieved. You may like to engage in some pre-app discussions with GCC Highways for some technical input.*

1.3 The planning application for the proposed access referred to by the LPA (S.19/0230/FUL) was supported by an Access Statement by IMA Transport Planning. Key points from that document are summarised in the access description below.

1.4 The Transport Statement then describes the proposed development and the HGV movements likely to arise.

1.5 The adequacy of the proposed access arrangement to serve the level of traffic expected is then considered, before the report is summarised and conclusions drawn.

1.6 This report should be read in conjunction with supporting information prepared by Land & Mineral Management, which provides additional detail on the proposals.

2 Approved Agricultural Access

2.1 The access onto the A38, which is subject to a 50mph speed limit, was permitted by application S.19/0230/FUL in March 2019 with conditions requiring the works to commence within 3 years in accordance with approved plans.

2.2 Other conditions specified a 2.4 x 160m visibility splay, construction of the first 10m of the access track in binder course and closure of existing access.

2.3 Discharge of condition application S.19/1432/DISCON is to be determined at the time of writing. The site location and visibility splay plan from that application, and the general arrangement plan, are included in Appendix TS-1.

2.4 The A38 runs north to Gloucester and south to Bristol. The site access is just under a kilometre south of the roundabout junction where the A38 meets the A419, which links to Junction 13 of the M5 and runs east to Stroud.

3 Development & Traffic Impact

3.1 The planning application proposes to improve agricultural land over former mineral workings at Fromebridge, described in more detail in the statement from Land & Mineral Management.

3.2 The proposal would involve importation of some 57,000m^3 of soils at a rate of 45,000 tonnes per year over 18 to 24 months.

3.3 Importation is likely to be in 18-tonne payloads using 32-tonne 8x4 tipper lorries, operating 5 days per week, leading to daily HGV movements as follows:

> 45,000 tonnes per year in 18-tonne payloads = 2,500 loads, 5,000 trips
>
> Operation running at 50 weeks/year = 50 loads/week, 100 trips/week
>
> Operation running weekdays only = 10 loads/day, 20 trips/day

3.4 The 20 daily HGV movements are likely to be spread over a 10 or 12-hour working day, typically 07:00-17:00 or 07:00-19:00, but in terms of average trips in any one hour, either is likely to lead to around one HGV load per hour, equating to an average of two HGV movements per hour.

3.5 The above figures are simple averages that lead to an overall rate of two vehicle movements an hour, which will have no material impact on the operation of the local highway network.

3.6 The nature of material import operations is that material will become available at different rates and from different origins, so day to day HGV movements will vary, some days seeing no movement, while other days might experience more HGV traffic.

3.7 However, with an average of 1 load (2 movements) per hour over the duration of the works, it is evident that even if there was considerable variation day to day, no material impact would arise in terms of highway capacity.

4 Access Implications

4.1 The approved agricultural access is shown in the local context in Plan TS-1. The access lies adjacent to central hatching between right turn lanes that serve the Fromebridge Service Station to the north and the B4071 Perry Way to the south.

4.2 The access is likely to be used by an average of 2 HGV movements an hour under the proposed works, which is comparable to the level of traffic that an agricultural access might experience during busy periods such as planting or harvesting.

4.3 The Applicant expects the majority of the imported material to arrive at the site from the north, turning left into the site. The vehicles bringing in the material will be in the control of the Applicant, who undertakes to instruct any drivers from the south not to turn right into the site (double white lines prevent that movement in any event).

4.4 Drivers arriving from the south only have a short diversion to U-turn safely at the Fromebridge Roundabout where the A38 meets the A419. Those U-turn movements will be infrequent and undertaken on a large roundabout, so no safety implications will arise.

5 Summary

5.1 This Transport Statement has considered the implications of works to improve agricultural land over former mineral workings to the east of the A38 at Fromebridge in the district of Stroud, Gloucestershire.

5.2 The proposed improvement works would use an agricultural access permitted by planning consent S.19/0230/FUL, which will be constructed to a specification agreed with the highway authority and with a visibility splay appropriate to the speed limit on the A38.

5.3 The works involve importing some 57,000m^3 of soils at 45,000 tonnes per year over 18 to 24 months, which averages 10 loads per day by 32-tonne tipper lorries, operating 5 days per week, averaging 1 load per hour over a 10 or 12-hour working day.

5.4 Actual HGV movements will vary as material will become available at different rates through the duration of the contract, some days seeing no movement, others having more HGV traffic, but with an average of just 1 load per hour, even considerable variation will have no material impact in terms of highway capacity.

5.5 The presence of double white lines at the site access prevents the right turn in from the A38. The Applicant expects a small proportion of HGV loads to arrive from the south, and those drivers will be instructed to U-turn at the nearby Fromebridge Roundabout, turning left into the site.

PLANS

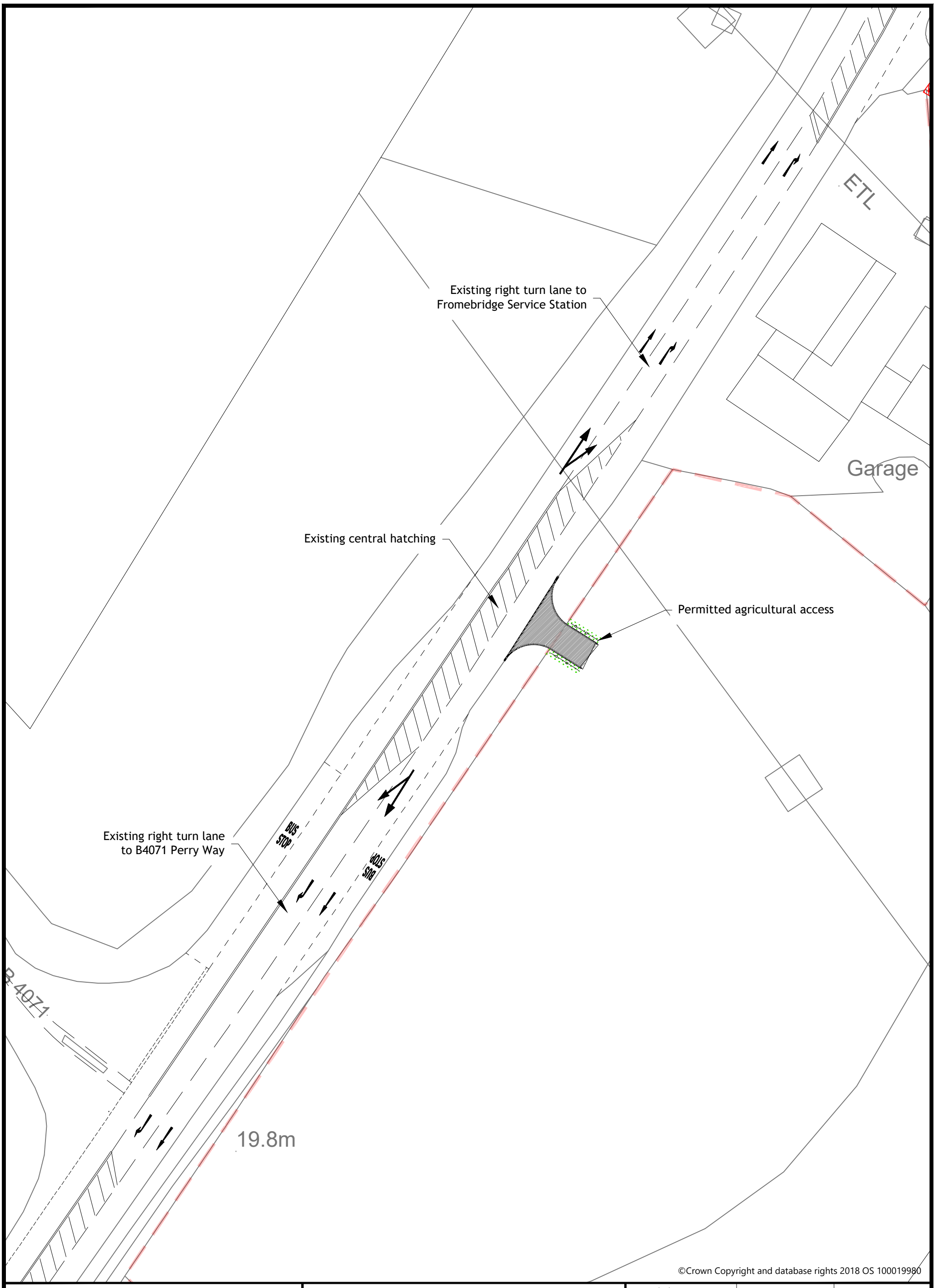
Plan TS-1 - Permitted Agricultural Access

APPENDICES

Appendix TS-1 - Approved Location/Visibility Plan & General Arrangement

TRANSPORT PLANNING

Plans



I M A TRANSPORT PLANNING
11 KINGSMEAD SQUARE
BATH BA1 2AB
t: 01225 444 011
www.ima-tp.com

TITLE:

Fromebridge, Gloucestershire
Permitted Agricultural Access
(Consent S.19//0230/FUL)

SCALE: (A3)	CHECKED:	APPROVED:
1:500		
CAD FILE:	DESIGN/DRAWN:	DATE:
Fromebridge V3-1.dwg	PMG	Nov 2019
PROJECT No:	DRAWING No:	REV:
IMA-19-217	Plan TS-1	

TRANSPORT PLANNING

Appendix TS-1

(Approved Access Plans)

IMA TRANSPORT PLANNING
11 KINGSMEAD SQUARE
BATH BA1 2AB
t: 01225 444 011
www.ima-tp.com

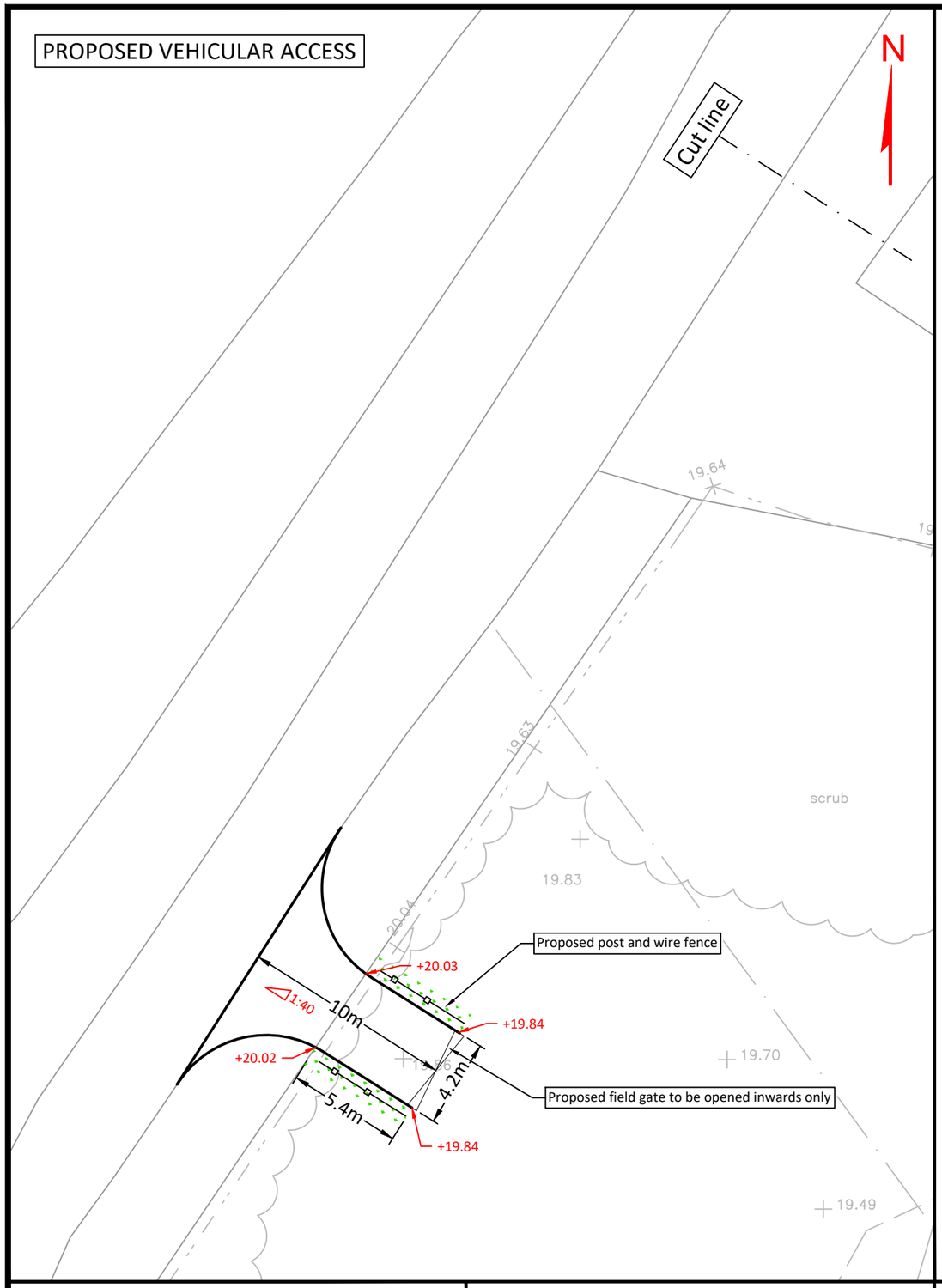
CLIENT: Mr Alan Smith, Gloucester

PROJECT: Land at Fromebridge, Whitminster Gloucestershire

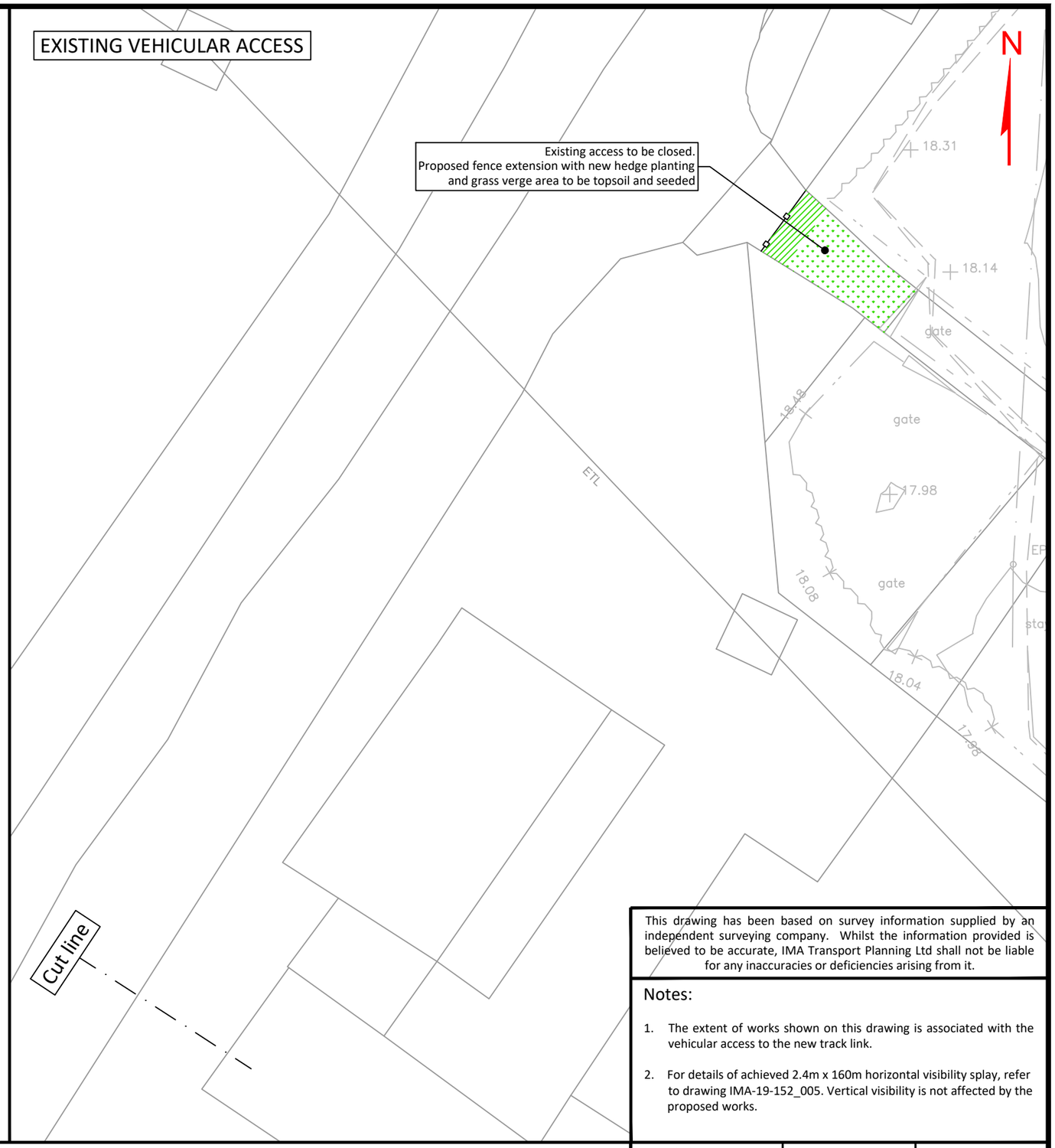
TITLE: Section 184 Agreement
Proposed Vehicle Access
Site Location Plan - Visibility Splay

SCALE: (A3) 1:1000	CHECKED: DS	APPROVED: DS
CAD FILE: IMA-19-152_005.dwg	DESIGN/DRAWN: PDI	DATE: September 2019
PROJECT No: IMA-19-152	DRAWING No: 005	REV: -

PROPOSED VEHICULAR ACCESS



EXISTING VEHICULAR ACCESS



This drawing has been based on survey information supplied by an independent surveying company. Whilst the information provided is believed to be accurate, IMA Transport Planning Ltd shall not be liable for any inaccuracies or deficiencies arising from it.

Notes:

1. The extent of works shown on this drawing is associated with the vehicular access to the new track link.
2. For details of achieved 2.4m x 160m horizontal visibility splay, refer to drawing IMA-19-152_005. Vertical visibility is not affected by the proposed works.

IMA TRANSPORT PLANNING
11 KINGSMEAD SQUARE
BATH BA1 2AB
t: 01225 444 011
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CLIENT: Mr Alan Smith, Gloucester

PROJECT: Land at Fromebridge, Whitminster Gloucestershire

TITLE: Section 184 Agreement Proposed Vehicle Access General Arrangement

SCALE: (A3)	CHECKED:	APPROVED:
1:250	DS	DS
CAD FILE:	DESIGN/DRAWN:	DATE:
IMA-19-152_010.dwg	PDI	September 2019
PROJECT No:	DRAWING No:	REV:
IMA-19-152	010	-

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LAND AT FROMEBRIDGE EAST OF A38, GLOUCESTERSHIRE – WASTE RECOVERY PLAN

NOISE IMPACT ASSESSMENT

Technical Report: R9573-1 Rev 1

Date: 13th July 2022

Land & Mineral Management
Suite 1, Security House
82c Chesterton Lane
Cirencester, GL7 1YD

24 Acoustics Document Control Sheet

Project Title: Land at Fromebridge East of A38, Gloucestershire – Waste Recovery Plan - Noise Impact Assessment

Report Ref: R9573-1 Rev 1

Date: 13th July 2022

	Name	Position	Signature	Date
Prepared by	Aileen Reed BEng MIOA	Principal Consultant		13th July 2022
Reviewed by	Reuben Peckham BEng MPhil CEng MIOA	Principal Consultant		13th July 2022
Approved by	Reuben Peckham BEng MPhil CEng MIOA	Principal Consultant		13th July 2022
For and on behalf of 24 Acoustics Ltd				

Document Status and Approval Schedule

Revision	Description	Prepared By	Reviewed by	Approved By
0	Approved for issue	Aileen Reed	Reuben Peckham	Reuben Peckham
1	Approved for issue	Aileen Reed	Reuben Peckham	Reuben Peckham

DISCLAIMER

This report was completed by 24 Acoustics Ltd on the basis of a defined programme of work and terms and conditions agreed with the Client. The report has been prepared with all reasonable skill, care and diligence within the terms of the Contract with the Client and taking into account the project objectives, the agreed scope of works, prevailing site conditions and the degree of manpower and resources allocated to the project.

24 Acoustics Ltd accepts no responsibility whatsoever, following the issue of the report, for any matters arising outside the agreed scope of the works.

This report is issued in confidence to the Client and 24 Acoustics Ltd has no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

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CONTENTS **Page**

1.0 INTRODUCTION

1.1 24 Acoustics Ltd has been retained by Land & Mineral Management on behalf of Mr & Mrs Smith to undertake a noise assessment in relation to a proposed waste recovery operation on land at Fromebridge, Gloucestershire.

1.2 This report presents a noise assessment, following site visits, subjective observations and noise surveys undertaken during June 2022.

1.3 All sound pressure levels quoted in this report are in dB relative to 20 µPa. All sound power levels are quoted relative to 10^{-12} W. A glossary of the acoustic terminology used in this report is provided in Appendix A.

1.4 This assessment has been prepared by 24 Acoustics with Principal Consultant Aileen Reed BEng MIOA as the project lead supervised by Reuben Peckham, BEng MPhil CEng MIOA, Principal Consultant and Director. Other staff have provided supporting roles under full supervision.

2.0 SITE DESCRIPTION AND PROPOSED OPERATION

2.1 The site is located immediately to the east of the A38 near Fromebridge, Whitminster and comprises formerly quarried land. The M5 motorway lies approximately 230 m to the south-east of the south-eastern site boundary.

2.2 The land was not properly restored after quarrying, and consequently, it is not as productive as the surrounding agricultural land which was not quarried. A recovery plan is proposed to use waste subsoils and soils to improve the land. It is proposed to import 57,000 cubic metres of material with an average depth of fill across the site of approximately 1m. All existing surface materials will be retained for use in the site works.

2.3 Stroud District Council has granted planning permission for the proposed scheme under S.20/2109/FUL and it is understood the Environment Agency (EA) has granted approval as a recovery activity. This report has been prepared to accompany the application of a bespoke permit from the EA.

2.4 The proposed hours of operation of the site are 08.00 – 18.00 hours Monday to Friday, 08.00 – 13.00 hours on Saturdays with no operation on site on Sundays or public holidays.

2.5 The nearest residential receptors to the site are to the rear of Fromebridge Service Station, Fromebridge Cottages and Netherhills Cottage all on the A38 near to the north-western site boundary. Hillsborough and the village of Fromebridge lie in excess of 300 m to the north-west with more distant properties including The Hawthorns and Apple Tree Caravan Park to the south-west.

2.6 Figure 1 provides a site location plan for the site and surrounding area and shows the nearest noise sensitive receptors. Figure 2 shows the proposed topographical levels for the proposed operations.

3.0 ASSESSMENT CRITERIA

3.1 The following represents current relevant guidance in relation to the proposed operations.

Environment Agency Guidance

3.2 EA guidance "Noise and vibration management: environmental permits" [Reference 1] provides guidance on how the agency will assess noise, how to manage noise and in particular how to carry out a noise impact assessment in the context of an environmental permit.

3.3 The guidance states that "BS 4142 - Methods for Rating Industrial and Commercial Sound" must be used to quantify the level of environmental noise impact from industrial processes. It describes how the level of impact relates to BS 4142 descriptors and this is summarised below.

- Unacceptable level of audible or detectable noise – this level of noise means that significant pollution is being or is likely to be caused at a receptor and you must take further action to reduce or stop operations. The closest corresponding BS 4142 descriptor is 'significant adverse impact'.

- Audible or detectable noise – this level of noise means that noise pollution is being (or is likely to be) caused at a receptor – your duty is to use appropriate measures to prevent or minimise noise. You are not in breach if you are using appropriate measures. The closest corresponding BS 4142 descriptor is 'adverse impact'.

- No noise, or barely audible or detectable noise – this level of noise means that no action is needed beyond basic appropriate measures. The closest corresponding BS 4142 descriptor is 'low impact or no impact' following consideration of context. The agency may decide that taking action to minimise noise is a low priority.

BS 4142:2014+A1:2019 - Methods for Rating Industrial and Commercial Sound

3.4 BS 4142:2014+A1:2019 [Reference 2] provides a method for rating the effects of industrial and commercial sound on residential areas.

3.5 The standard advocates a comparison between the representative measured L_{A90} background noise level and L_{Aeq} noise level from the source being considered. For rating purposes if the noise source is tonal, intermittent or otherwise distinctive in character, a rating correction should be applied.

3.6 The standard states that a difference between the rating level and the background level of around +10 dBA is an indication of a significant adverse impact, depending on the context and a difference of around +5 dBA is likely to be an indication of an adverse impact, also depending on the context. Where the rating level does not exceed the background noise level, this is an indication of the specific sound source having a low impact (depending upon the context).

4.0 ASSESSMENT METHODOLOGY

4.1 The following assessment methodology has been used:

i. A background noise survey has been undertaken to determine existing levels of background noise at locations representative of the nearest residential properties to the site;

ii. An acoustic model of the proposed operations has been developed. This has predicted the operational noise level at the nearest residential properties;

iii. An assessment of the likely noise impact associated with the proposals has been undertaken, in accordance with BS 4142:2014+A1:2019. Given the short-term nature of the proposed operations, a rating noise level not exceeding 10 dBA above the representative background noise level is considered acceptable, however, we

have set a target noise rating level of 5 dBA above the background noise level in accordance with the EA guidelines.

5.0 NOISE SURVEYS

Background Survey Methodology

5.1 A background noise survey was undertaken in the vicinity of the site during the period 15th to 20th June 2022. Measurements were undertaken at locations considered acoustically representative of the nearest noise sensitive receptors as described below:

Location 1. To the north of the site between Fromebridge Cottages and Netherhills Cottage;
Location 2: on the southern site boundary at a similar distance from the M5 motorway as the eastern end of Apple Tree Caravan Park.

5.2 The microphones were at a height of 1.8 m above ground level and were fitted with environmental windshields. The measurement locations are shown in Figure 1.

5.3 The sound level meters were configured to monitor five-minute samples (using fast time weighting) in terms of the overall A-weighted L_{eq} and L_{90} sound pressure levels.

5.4 The following instrumentation was used during the survey:

- Two Rion NL32 precision grade sound level meters;
- Bruel & Kjaer acoustic calibrator, Type 4231.

5.5 Calibration was checked before and on completion of the measurements and no drift was recorded. The weather throughout the survey was generally dry with wind speeds below 5 m/s. Noise measurements were made in accordance with BS 7445: 1991 'Description and measurement of environmental noise Part 2 - Acquisition of data pertinent to land use' [Reference 3].

Background Noise Survey Results

5.6 The results of the background noise survey are presented graphically in Appendix B. It was observed that during the survey period, agricultural operations were taking place

immediately to the south-west of the site which included HGV movements. It is understood these operations were taking place over the period 6.30 am – 5.30 pm on weekdays. From data analysis, it is considered that this has impacted measured noise levels at Location 2 but not at Location 1 which was more distant from these workings.

5.7 It was noted that, particularly at Location 2, background noise levels vary with wind direction due to the proximity of the M5 motorway. A summary of the results presenting average $L_{Aeq,1hr}$ values and typical $L_{A90,1\ hr}$ values are shown below in Tables 1 and 2 for the proposed hours of operation for this development.

5.8 From consideration of the measured levels, to ensure no significant contribution from the adjacent agricultural workings described above, a representative background noise level is derived for the weekday and Saturday morning periods for use in this assessment and these are also presented in Tables 1 and 2.

Day and Date	**Sound Pressure Level, dB 08.00 – 18:00 Mon – Fri, 08.00 – 13.00 Saturday**	
	$L_{Aeq,\ 1hr}$	**$L_{A90,\ 1\ hr}$**
Wed 15/6/22	71	59
Thu 16/6/22	70	56
Fri 17/6/22	70	58
Sat 18/6/22	71	55
Mon 20/6/22	71	57
Weekday Representative Background Noise Level		**55**
Saturday AM Representative Background Noise Level		**55**

Table 1: Ambient Noise Levels - Location 1

Day and Date	**Sound Pressure Level, dB 08.00 – 18:00 Mon – Fri, 08.00 – 13.00 Saturday**	
	$L_{Aeq,\ 1hr}$	**$L_{A90,\ 1\ hr}$**
Wed 15/6/22	46	42
Thu 16/6/22	46	40
Fri 17/6/22	50	45
Sat 18/6/22	54	50
Mon 20/6/22	52	48
Weekday Representative Background Noise Level		**40**
Saturday AM Representative Background Noise Level		**40**

Table 2: Ambient Noise Levels - Location 2

6.0 NOISE IMPACT ASSESSMENT

Proposed Operations

6.1 The proposed operations will take place over an 18 – 24 month period, however, during this time work will not take place continuously. A single loading shovel is anticipated to operate to spread the soil over the site and as a worst case assessment, this is assumed to operate continuously over the 1 hour assessment period.

6.2 It is understood that there will be 10 HGV trips per day (ie 10 in and 10 out) on average. Whilst these are likely to be spread out over the working day, this assessment assumes a worst case of 4 HGV trips per assessment hour (2 in and 2 out). An on-site speed limit of 10 mph is assumed.

Acoustic Model

6.3 The source-term noise data shown in Appendix C has been used to populate an acoustic model of the site. This data is based on noise measurements undertaken by 24 Acoustics on other similar sites . IMMI noise mapping software has been used. The software has used the calculation methodology of ISO 9613 [Reference 4] to determine the noise level from each source at each receptor location, taking into account the effects of geometric divergence, screening and ground and atmospheric absorption. A temperature of 10°C is assumed along with 70% relative humidity and G=0.5 for ground absorption.

6.4 Three scenarios have been considered in the acoustic model to represent the likely noise emission over the life of the operation as follows:

- Workings in the north-western part of the site;
- Workings in the centre of the site;
- Workings in the south-eastern part of the site.

6.5 The acoustic model has calculated the noise level from each scenario at each of the identified residential receptors. Table 3 below summarises the results of the calculations for each scenario considered with acoustic contours shown in Figures 3 - 5.

Receptor Property	Predicted Noise Levels, dB $L_{Aeq, 1\ hour}$
Scenario 1 – Workings in NW	
Fromebridge Service Station property	54
Fromebridge Cottages	57
Netherhills Cottage	45
Hillsborough	36
Fromebridge	36
The Hawthorns / Apple Tree Park West	36
Apple Tree Park East	35
Scenario 2 – Workings in Centre	
Fromebridge Service Station property	48
Fromebridge Cottages	45
Netherhills Cottage	39
Hillsborough	33
Fromebridge	36
The Hawthorns / Apple Tree Park West	36
Apple Tree Park East	36
Scenario 3 – Workings in SE	
Fromebridge Service Station property	39
Fromebridge Cottages	36
Netherhills Cottage	34
Hillsborough	31
Fromebridge	30
The Hawthorns / Apple Tree Park West	36
Apple Tree Park East	38

Table 3: Calculated Noise Levels – Noise from Waste Recovery Operations

Noise Impact Assessment

6.6 A comparison of the predicted rating noise levels, relative to the prevailing typical background noise level at each receptor has been carried out in accordance with BS 4142 and the results are shown in Table 4 below. Due to the intermittent nature of the proposed operations, a + 3dB rating correction has been applied in accordance with the standard.

Receptor	Specific Source Noise Level, $L_{Aeq, 1hr}$	Rating Level	Representative Background Sound Level, $L_{A90, 1 hr}$	BS 4142 Assessment Level
Workings in NW of Site				
Fromebridge Service Station property	54	57	55	2
Fromebridge Cottages	57	60	55	+5
Netherhills Cottage	45	48	55	-7
Hillsborough	36	39	40	-1
Fromebridge	36	39	40	-1
The Hawthorns / Apple Tree Park West	36	39	40	-1
Apple Tree Park East	35	38	40	-2
Workings in Centre of Site				
Fromebridge Service Station property	48	51	55	-4
Fromebridge Cottages	45	48	55	-7
Netherhills Cottage	39	42	55	-13
Hillsborough	33	36	40	-4
Fromebridge	36	39	40	-1
The Hawthorns / Apple Tree Park West	36	39	40	-1
Apple Tree Park East	36	39	40	-1
Workings in SE of Site				
Fromebridge Service Station property	39	42	55	-13
Fromebridge Cottages	36	39	55	-16
Netherhills Cottage	34	37	55	-18
Hillsborough	31	34	40	-6
Fromebridge	30	33	40	-7
The Hawthorns / Apple Tree Park West	36	39	40	-1
Apple Tree Park East	38	41	40	+1

Table 4: BS 4142 Assessment, Waste Recovery Operation, Fromebridge

6.7 The assessment has indicated that for all scenarios considered, rating noise levels will be no greater than the background noise level at the majority of residential receptors and this is considered a 'low' impact under BS 4142.

6.8 At times, rating noise levels will marginally exceed the background noise level at the Fromebridge Service Station Property and the eastern end of Apple Tree Park, however, given that this will occur only a for a limited period, and the assessment assumes that the

loading shovel operates continuously, this impact is also considered to be 'low' given the context. Furthermore, noise from the workings will not be dissimilar to noise from agricultural activity which occurs in the vicinity of the site and receptors.

6.9 A rating level 5 dB above background is anticipated at Fromebridge Cottages when workings are in the north-west of the site assuming that the loading shovel operates continuously which is a worst case assessment. Under BS 4142 this may result in an adverse impact depending upon the context, however, given the short-term nature of the proposed operations and anticipated impact, and that noise levels will reduce as the workings move a greater distance away, and, given the agricultural nature of the area, this is considered acceptable.

Uncertainty

6.10 All reasonable measures were taken to minimise uncertainty in the course of this assessment including the following:

- Background noise surveys were undertaken during suitable weather conditions with fully calibrated instrumentation for a representative period of time;
- Real-world source noise data for plant has been utilised in lieu of manufacturer's data to better represent proposed sources of noise;
- Calculations have been undertaken utilising proprietary software using the calculation methodology of ISO 9613.

7.0 CONCLUSIONS

7.1 24 Acoustics Ltd has been retained by Land & Mineral Management to undertake a noise assessment in relation to a proposed Waste Recovery Operation on land east of the A38 in Fromebridge, Whitminster, Gloucestershire.

7.2 The assessment has been carried out following background noise surveys undertaken at locations representative of the closest residential properties to the site and following acoustic modelling of the proposed operations.

7.3 The results of the noise modelling indicate that at the nearest noise sensitive receptors, rating noise levels when assessed in accordance with BS 4142:2014+A1:2019 will be no greater than 5 dB above the existing background which, given the context of a short-term impact and the agricultural nature of the area, is considered a 'low' impact and this is therefore considered acceptable.

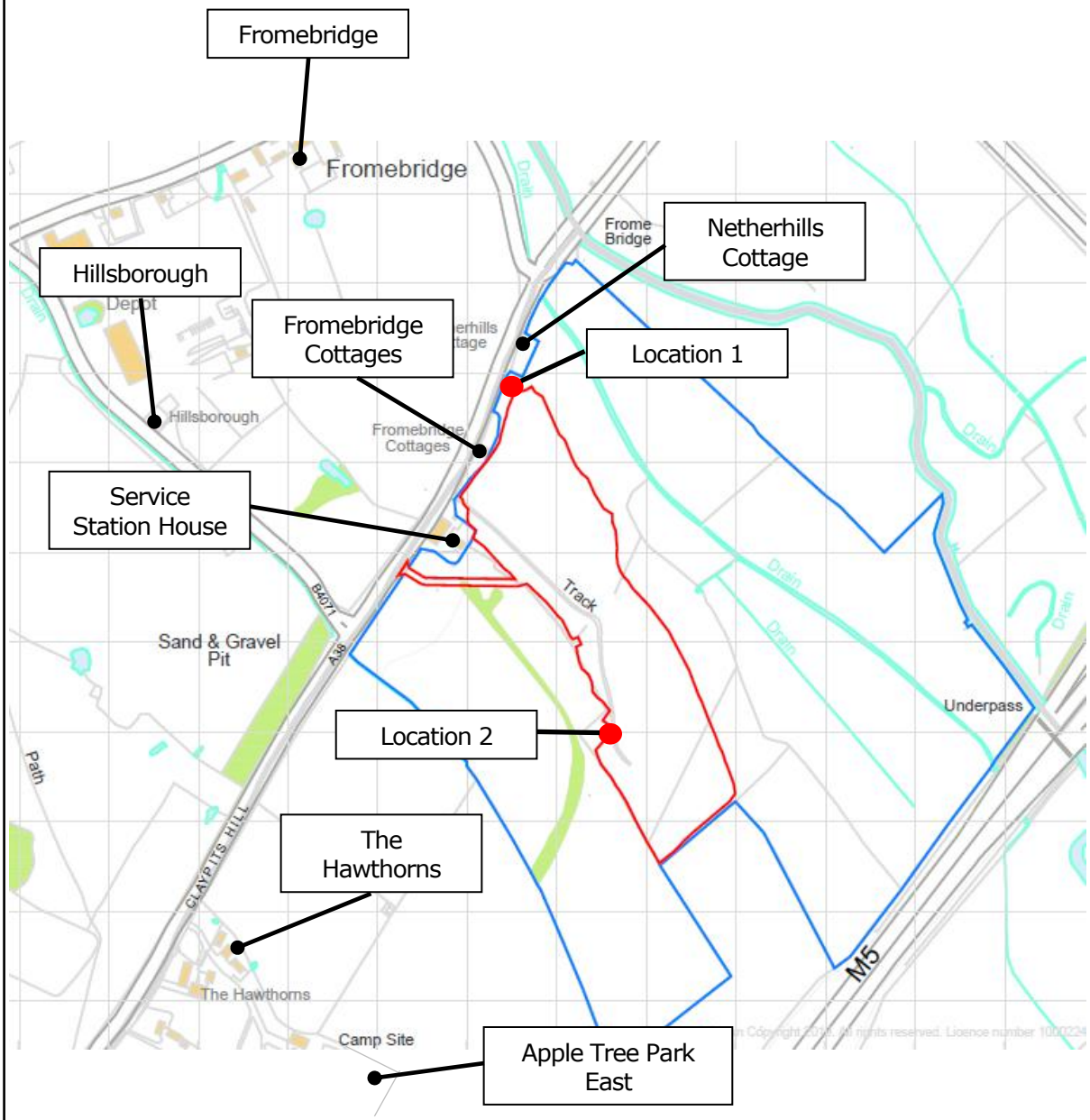
REFERENCES

1. Environment Agency Guidance "Noise and vibration management: environmental permits", updated Jan 2022

2. British Standards Institution. British Standard 4142:2014+A1:2019. Methods for Rating and Assessing Industrial and Commercial Sound, 2014.

3. British Standards Institution. BS 7445: 'Description and measurement of environmental noise Part 2 - Acquisition of data pertinent to land use' 1991.

4. International Standards Organisation. ISO 9613. Acoustics - Propagation of Environmental Noise, 1997.



Project: Land at Fromebridge, Whitminster	**Description:** Site Location showing Noise Measurement and Receptor Locations	
DWG No: Figure 1	**Scale:** N.T.S.	**Rev:** -
Date: June 2022	**Drawn By:** AR	**Job No:** 9573-1

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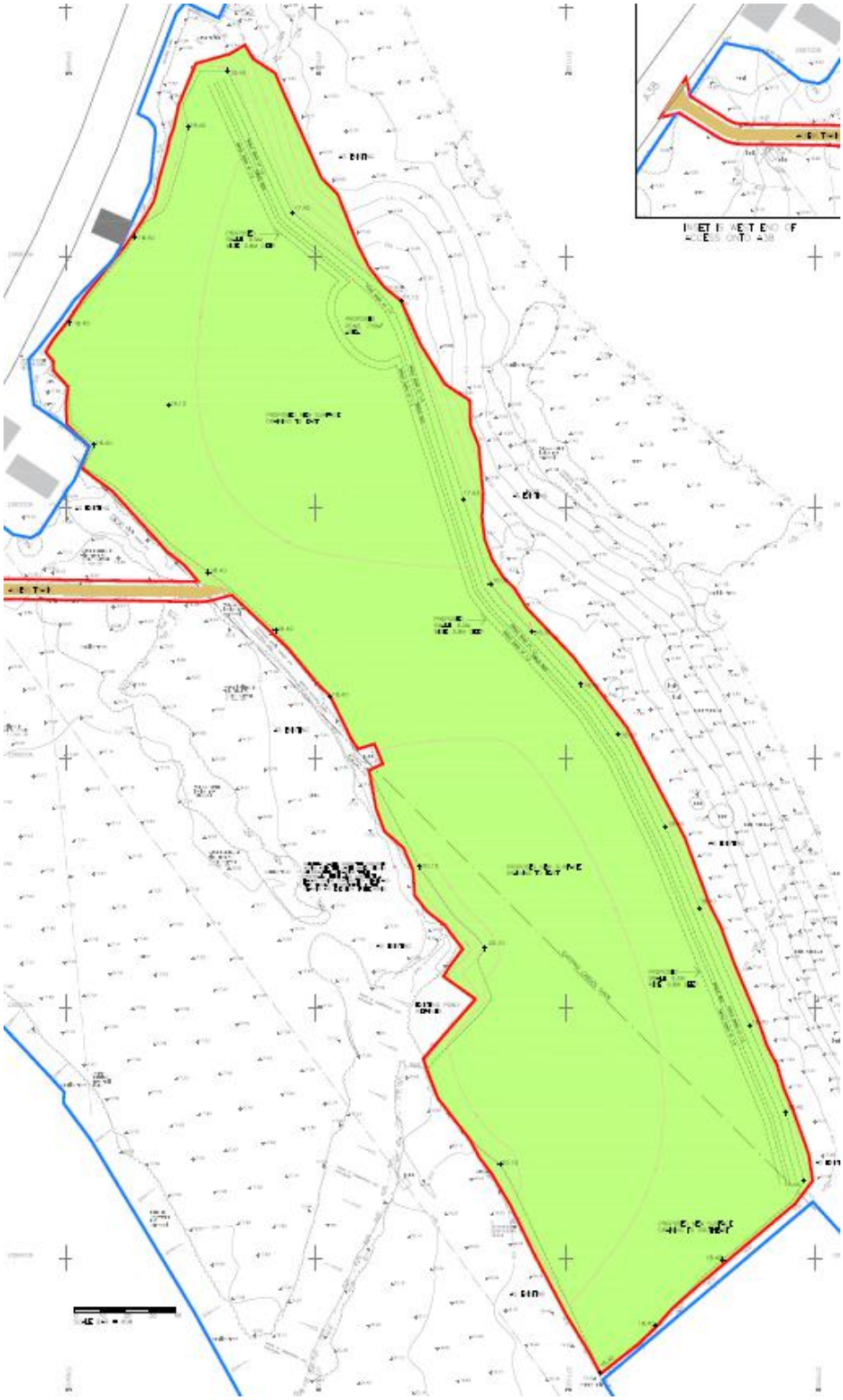
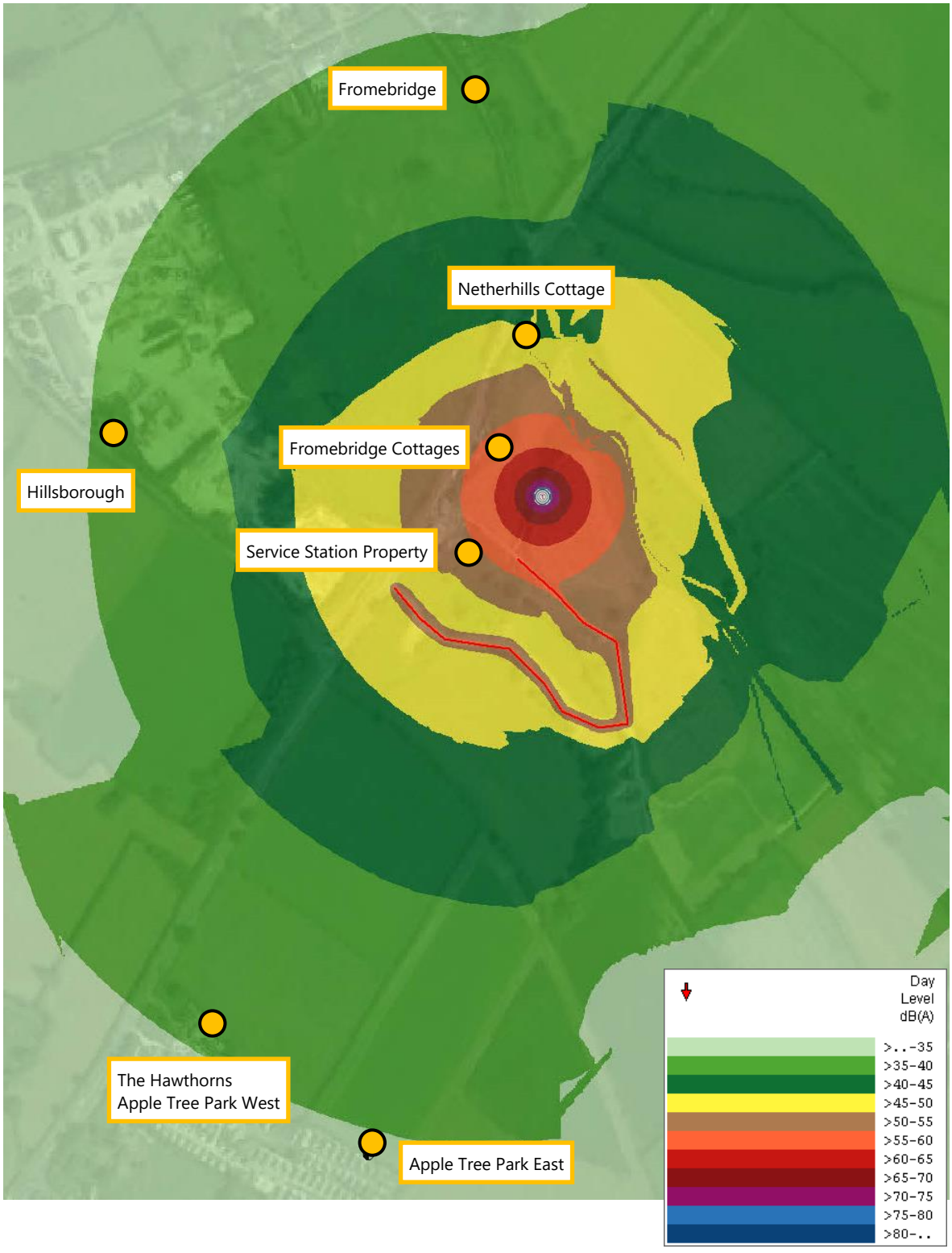


Project: Land at Fromebridge, Whitminster	**Description:** Proposed Site Layout Plan		24Acoustics www.24acoustics.co.uk
DWG No: Figure 2	**Scale:** N.T.S.	**Rev:** -	
Date: June 2022	**Drawn By:** AR	**Job No:** 9573-1	



Project: Land at Fromebridge, Whitminster	**Description:** Noise Contours, $L_{Aeq,\ 1\ hr}$ - Workings in NW of Site	
DWG No: Figure 3	**Scale:** N.T.S.	**Rev:** -
Date: June 2022	**Drawn By:** AR	**Job No:** 9573-1

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Project: Land at Fromebridge, Whitminster	**Description:** Noise Contours, $L_{Aeq,\ 1\ hr}$ – Central Workings	
DWG No: Figure 4	**Scale:** N.T.S.	**Rev:** -
Date: June 2022	**Drawn By:** AR	**Job No:** 9573-1

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Project: Land at Fromebridge, Whitminster	**Description:** Noise Contours, $L_{Aeq, 1hr}$ – Workings in SE of Site	
DWG No: Figure 5	**Scale:** N.T.S.	**Rev:** -
Date: June 2022	**Drawn By:** AR	**Job No:** 9573-1

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APPENDIX A – ACOUSTIC TERMINOLOGY

Noise is defined as unwanted sound. The range of audible sound is from 0 to 140 dB. The frequency response of the ear is usually taken to be around 18 Hz (number of oscillations per second) to 18000 Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than the lower and higher frequencies and because of this, the low and high frequency components of a sound are reduced in importance by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most widely used and which correlates best with subjective response to noise is the dBA weighting. This is an internationally accepted standard for noise measurements.

For variable sources, such as traffic, a difference of 3 dBA is just distinguishable. In addition, a doubling of traffic flow will increase the overall noise by 3 dBA. The 'loudness' of a noise is a purely subjective parameter, but it is generally accepted that an increase/ decrease of 10 dBA corresponds to a doubling/ halving in perceived loudness.

External noise levels are rarely steady, but rise and fall according to activities within an area. In attempt to produce a figure that relates this variable noise level to subjective response, a number of noise indices have been developed. These include:

i) The L_{Amax} noise level

This is the maximum noise level recorded over the measurement period.

ii) The L_{Aeq} noise level

This is "equivalent continuous A-weighted sound pressure level, in decibels" and is defined in British Standard BS 7445 [1] as the "value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time internal, T, has the same mean square sound pressure as a sound under consideration whose level varies with time".

It is a unit commonly used to describe construction noise and noise from industrial premises and is the most suitable unit for the description of other forms of environmental noise. In more straightforward terms, it is a measure of energy within the varying noise.

iii) The L_{A10} noise level

This is the noise level that is exceeded for 10% of the measurement period and gives an indication of the noisier levels. It is a unit that has been used over many years for the measurement and assessment of road traffic noise.

iv) The L_{A90} noise level

This is the noise level that is exceeded for 90% of the measurement period and gives an indication of the noise level during the quieter periods. It is often referred to as the background noise level and is used in the assessment of disturbance from industrial noise.

APPENDIX B – MEASURED NOISE LEVELS

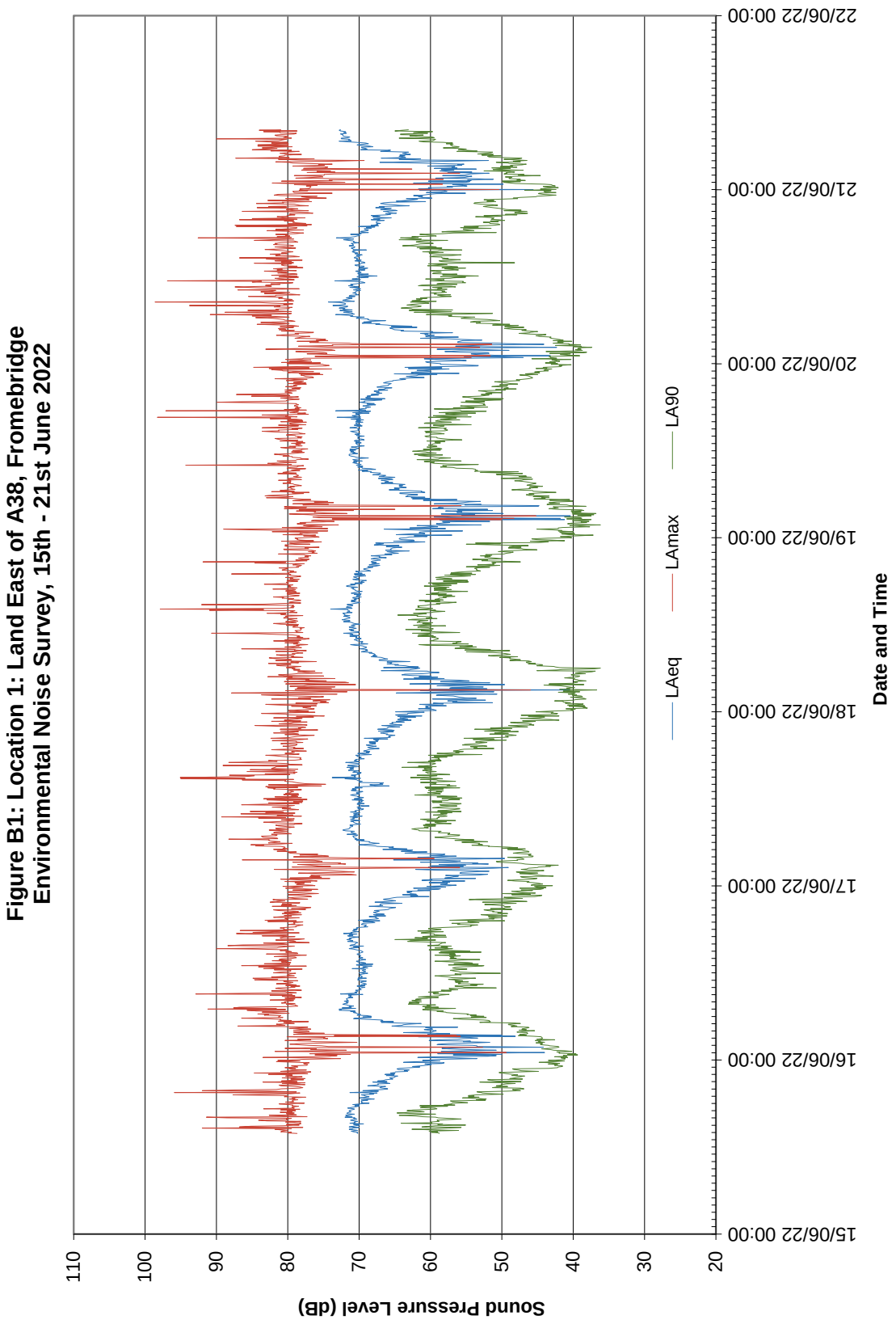


Figure B1: Location 1: Land East of A38, Fromebridge Environmental Noise Survey, 15th - 21st June 2022

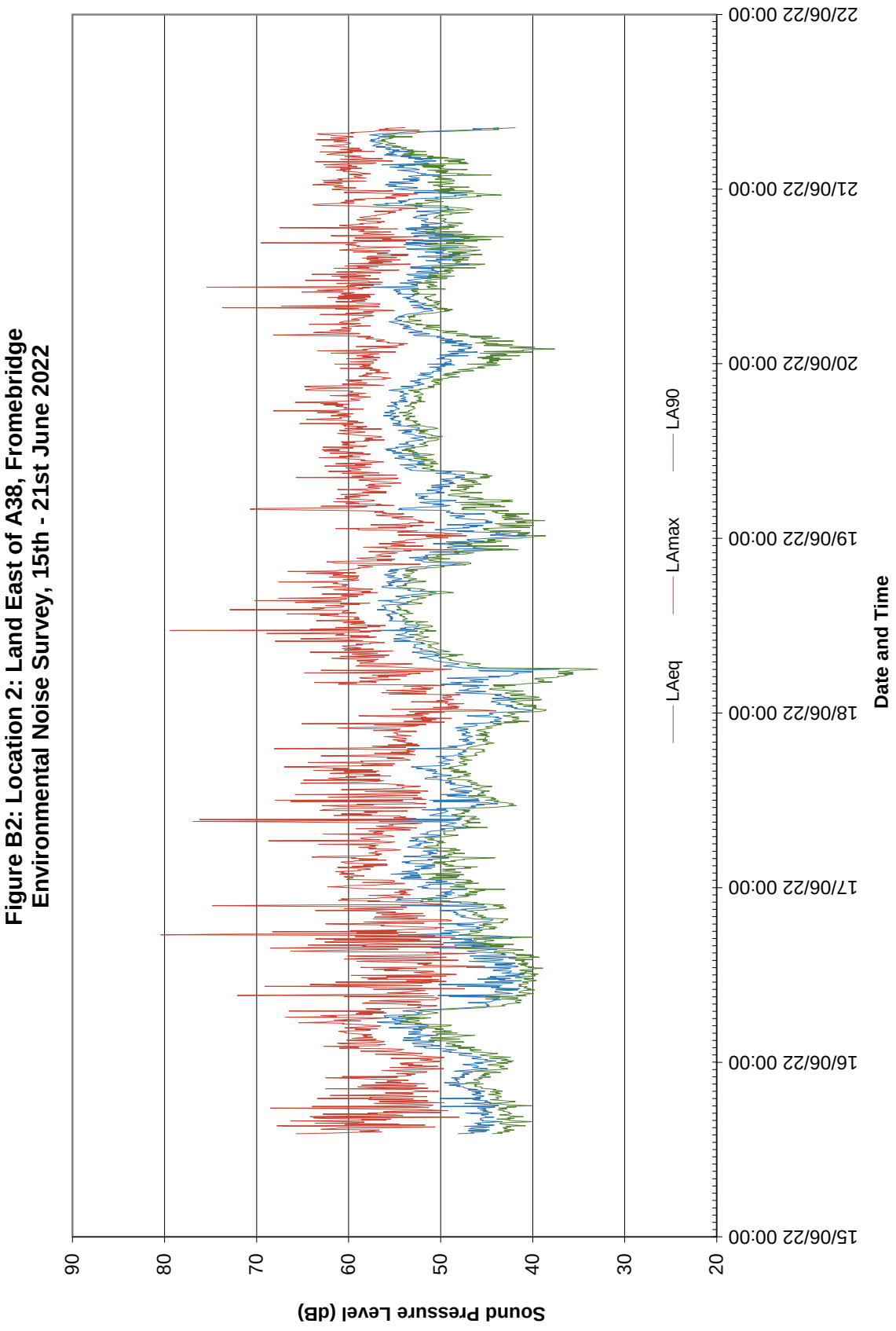
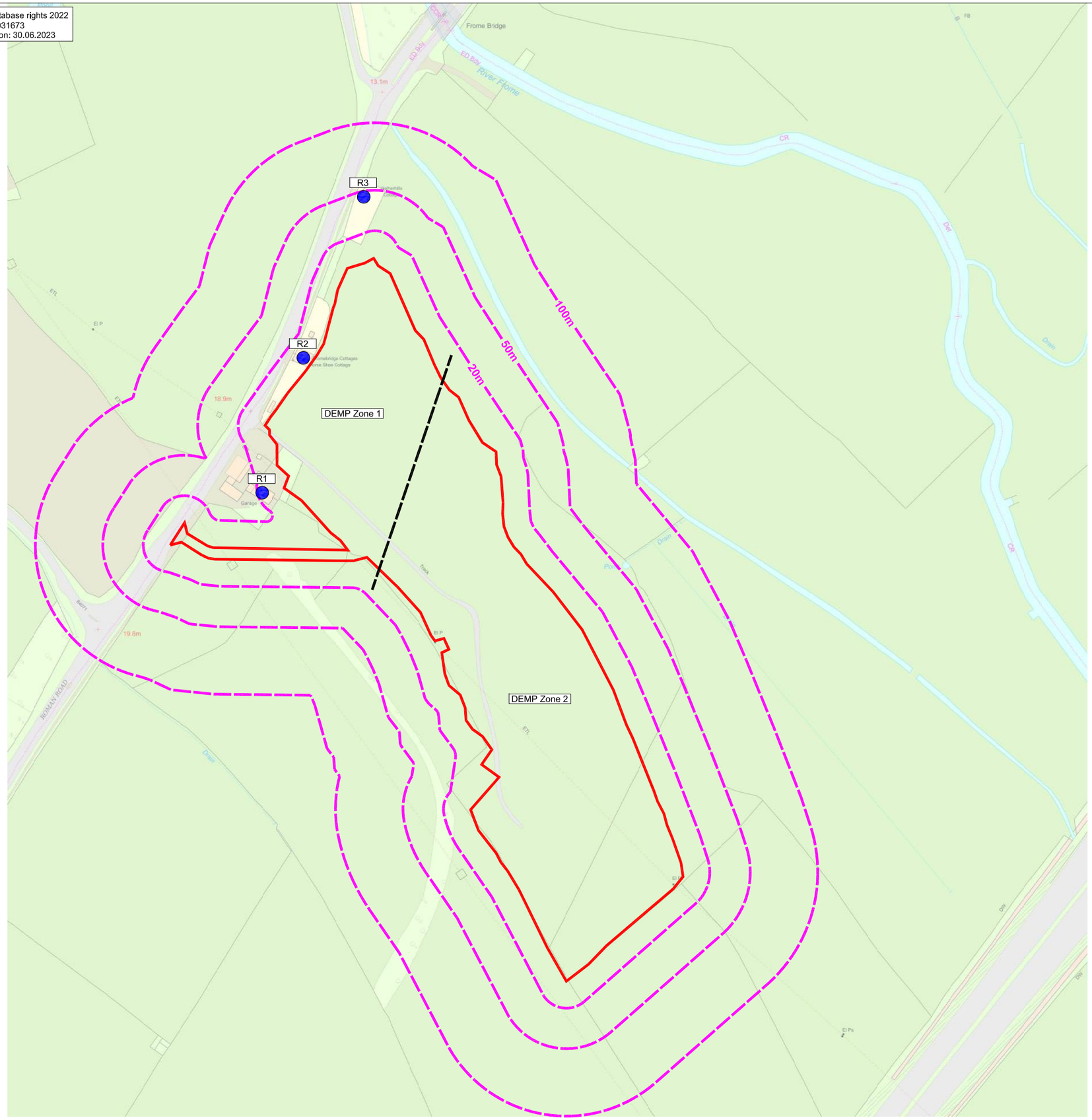


Figure B2: Location 2: Land East of A38, Fromebridge
Environmental Noise Survey, 15th - 21st June 2022
Sound Pressure Level (dB)
90
80
70
60
50
40
30
20
15/06/22 00:00
16/06/22 00:00
17/06/22 00:00
18/06/22 00:00
19/06/22 00:00
20/06/22 00:00
21/06/22 00:00
22/06/22 00:00
Date and Time
LAeq
LAmax
LA90

APPENDIX C – SOURCE TERM SOUND POWER LEVELS

		Sound Power Level, Octave Band Centre Frequency, Hz								
	dBA	**31.5**	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**
Doosan DL450 loading shovel	104	99	107	107	102	100	99	97	93	86
HGV	98	109	106	100	97	94	93	92	86	80



LEGEND

- SITE BOUNDARY
- OFFSET BOUNDARY
- RECEPTOR LOCATIONS

N
W E
S

Mr & Mrs A Smith

SITE
Land At Fromebridge, Whitminster, Gloucestershire

PROJECT
AQ Impact Assessment - 01.0094.002

DRAWING TITLE
Site Setting and Receptor Locations

DRAWING NUMBER	REVISION
DEMP1	0
SCALE	DATE
1:3000 @ A3	30.06.2022

ISOPLETH