

ABERMULE BUSINESS PARK

Site Condition Report

Sections 1 - 3

December 2021



CONTACTS

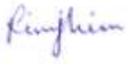
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Abermule Business Park

Site Condition Report

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Checker Ross Scammell 

Approver George Flower 

Report No 10026414-ARC-XX-XX-RP-ZZ-0005-03-Site Condition Report

Date December 2021

VERSION CONTROL

Version	Date	Author	Checker	Approver	Changes
01	17/06/2020	R Singh	R Scammell	G Flower	First issue
02	08/09/2020	A Watts	G Francis	G Flower	Update following SLR review
03	16/12/2021	J Davies	E Evans	M Rowney	Update following NRW review

This report dated 16 December 2021 has been prepared for Powys County Council (the "Client") in accordance with the terms and conditions of appointment dated 23 March 2020 (the "Appointment") between the Client and **Arcadis (UK) Limited** ("Arcadis") for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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1 INTRODUCTION

1.1 Terms of Reference

Arcadis Consulting (UK) Limited (Arcadis) has been commissioned by Powys County Council to undertake a Site Condition Report (SCR) for Abermule Business Park ('the Site'). This report presents the observations from a site walkover survey and the findings from the Phase 1 Geo-environmental Desk Study (Ref 1) as well as the Geo-environmental and Geotechnical Assessment Report (Ref 2), both completed by Arcadis relating to the site.

Powys County Council (current site operator) wish to apply for a permit for operating a recycling bulking facility comprising different units (bulking shed, storage slab, and wash, green and glass areas) and vehicle parking areas.

1.2 Objectives

The objective of this SCR is to provide documentation to support the permit application for a recycling bulking facility.

Powys County Council has provided a 'Site Boundary Plan' which shows the boundary for permitted activities and is attached as drawing no. 004 in Appendix A.

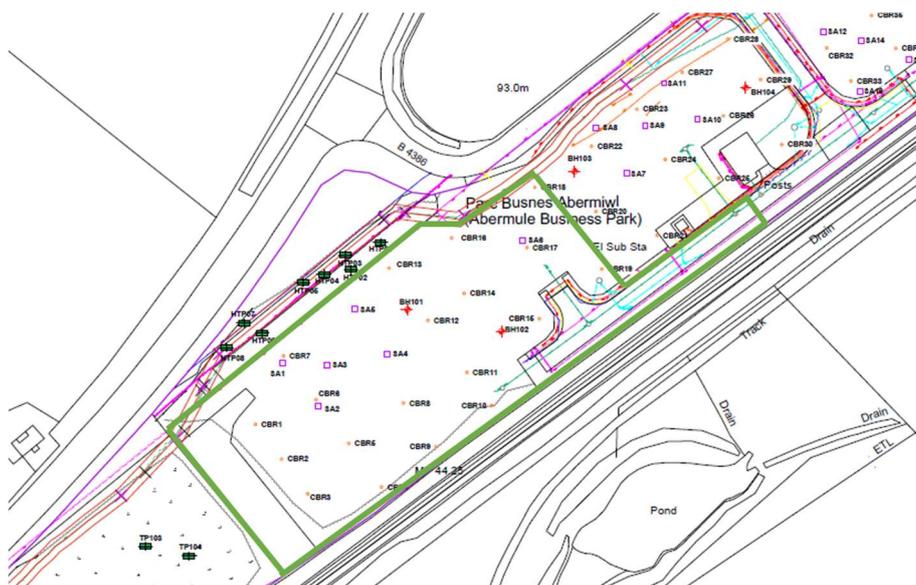
1.3 Sources of Information

The following sources of information have been used in the compilation of this report:

- Arcadis, Abermule Business Park, Phase 1 Geo-environmental Desk Study, Ref: 0001-UA006590-26-UP32R-01, December 2017 (Ref 1); and
- Arcadis, Abermule Business Park, Geo-environmental and Geotechnical Assessment Report, Ref: 10026414-ARC-00-XX-RP-ZZ-0003-02, May 2019 (Ref 2).

The information contained within the Geo-environmental and Geotechnical Assessment Report has been used to inform the baseline data for the site. Information provided within this SCR has been extracted from the Geo-environmental and Geotechnical Assessment Report (Ref. 2) mentioned above.

Plate 1: Site Investigation Locations within Environmental Permit Boundary



Powys County Council has confirmed that site conditions have not changed since the Phase 1 Geo-environmental Desk Study and Geo-environmental and Geotechnical Assessment Report were written.

1.4 Limitations

This report has been prepared for the client in accordance with the terms and conditions of appointment. Arcadis cannot accept any responsibility for any use of or reliance on the contents of this report by any third party. The copyright of this document, including the electronic format, shall remain the property of Arcadis.

This report has been compiled from a number of sources, which Arcadis believes to be trustworthy. However, Arcadis is unable to guarantee the accuracy of information provided by others. The report is based on information available at the time of writing. Consequently, there is potential for further information to become available, which may change this report's conclusion and for which Arcadis cannot be held responsible. Full limitations are presented in Appendix A.

2 SITE CONDITION REPORT

1.0 SITE DETAILS	
Name of the applicant	Powys County Council
Activity address	Abermule Business Park, Maesderwen Farm, Abermule Village, SY15 6NU
National grid reference	NGR: 315720, 294182
Document reference and dates for Site Condition Report at permit application and surrender	<u>Permit Application:</u> Doc Ref: 10026414-ARC-XX-XX-RP-ZZ-0005-03 Date: June 2020
Document references for site plans (including location and boundaries)	2395/M01/001 Rev B - Survey Boundary and Location Plan, 08/03/17 (Appendix B). 2395/P03/002 - Existing Site Layout, 13/03/18 (Appendix A).

2.0 CONDITION OF THE LAND AT PERMIT ISSUE	
<p>Environmental setting including:</p> <ul style="list-style-type: none"> • Geology • Hydrogeology • Surface Waters 	<p><u>Geology</u> Borehole logs are presented in Appendix C. Made ground was not encountered at the two borehole locations, Alluvial Fan (Secondary Undifferentiated aquifer). deposits comprising both granular and cohesive deposits were recorded during the ground investigation.</p> <ul style="list-style-type: none"> • <u>Cohesive deposits</u> - Greenish brown slightly sandy gravelly silt and soft to firm greyish and orangish brown slightly sandy gravelly clays to a maximum depth of 4.00m bgl and a maximum thickness of 4m. • <u>Granular deposits</u> - Medium dense to very dense brown and grey sandy clayey sub-angular to sub-rounded fine to coarse gravel up to a maximum depth of 10.00 m bgl and a maximum thickness of 6.00m. <p><u>Hydrogeology</u> Bedrock of the Nantglyn Flags Formation (Secondary B Aquifer) was not encountered.</p> <p>One groundwater abstraction licence is recorded within 500m of the site, approximately 260m south west of the Site, used for farming and domestic, with Powys County Council being the licence holder.</p> <p>Groundwater flow direction is anticipated to be towards the west and south west consistent with the catchment and flow direction of the River Severn.</p>

	<p><u>Surface Waters</u></p> <p>The nearest mapped surface water features are located immediately to the east and to the west and approximately 14m south east of the Site boundary (assumed to be field drains). A pond is located approximately 70m south of the Site. The River Severn is located approximately 200m north of the Site at its closest point and flows to the south west. The Mule River is approximately 500m east, and there are unnamed streams located approximately 200m to the north west and approximately 20 - 250m southeast of the Site. Several mapped streams/drains appear to be culverted. Surface water courses near to the Site are likely to drain north and Westwards towards the River Severn.</p> <p>The Site is located within an area that is susceptible to extreme flooding from rivers without defences (Zone 2). A high risk, 30-year return area is located in the southwest. A medium risk, 100-year return is located in the centre and north-east of the Site.</p>
<p>Pollution history including:</p> <ul style="list-style-type: none"> • 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 	<p><u>Pollution Incidents</u></p> <p>There are no recorded Pollution incidents to controlled waters within approximately 250m of the Site. The closest incident occurred 475.0m north west in relation to a sheep farm resulting in a minor incident.</p> <p><u>Discharge Consents</u></p> <p>There are no recorded discharge consents within approximately 250m radius of site. The nearest is approximately 300m southeast of site for sewage discharges - final/treatment effluent to the surface water course (The Mule) which runs well beyond the eastern boundary of the site.</p> <p><u>Historical Land Uses</u></p> <p>Onsite</p> <p>The site was an open agricultural field with an unnamed road in the north west of the site between circa 1884 and 1964.</p> <p>The site was labelled as Abermule Business Park with access road from B4386 running in a south-eastern direction and along the south-eastern boundary of the site since circa 2017 mapping (a couple of small structures are also shown along the access road).</p> <p>Offsite</p> <p>Circa 1884, the Cambrian Railway which runs in a north-east to south-west orientation is located approximately 3 m south of the site, with an unnamed road to Abermule to the north.</p> <p>A reservoir is located approximately 80m south of the site on the other side of railway. Three ponds were recorded at 60m and 250m north west and 125m east of the site. Two of these were later infilled circa 1903. The River Severn is approximately 250m north of the site, with a series of farm related buildings located between 20 -200m north east of the site.</p> <p>Circa 2000, Maesderwen farm to the north has been expanded to include a large commercial building where there were previously smaller farm buildings. 220-250m east of the site was</p>

	<p>predominantly residential properties and an associated area for commercial use. A former reservoir (south of the site) has been partially or fully infilled and appeared to be vegetated.</p> <p><u>Potential Sources of Contamination</u> A number of potential sources of contamination were noted within the Phase 1 Desk Study for the site:</p> <ul style="list-style-type: none"> • Made Ground associated with abandoned roadway, rubble mounds (potentially containing asbestos containing materials (ACMs)) and use of the Site by the farmer to store farm equipment. • Radon gas (naturally occurring). <p><u>Radon</u> The site is located within a medium probability radon area (5% to 10% of homes are estimated to be at or above the action level).</p> <p><u>Potential for Collapsible or Compressible Ground and Landslides</u></p> <ul style="list-style-type: none"> • There is a very low potential for compressible ground stability hazards and a very low to moderate potential for compressible ground stability hazards on-site. • On-site there is a very low potential of landslides, however off-site within 250m there are six potential areas of land sliding with a low to high risk. <p><u>Ecologically Sensitive Areas</u> The site is not located within a designated Environmentally Sensitive Area. However, ancient woodland has been identified located approximately 413m to the northwest and 453m to the north of the Site.</p> <p><u>Visual / Olfactory Evidence of Existing Contamination</u> Other than the Made Ground and the presence of non-natural materials recorded, no visual or olfactory evidence of contamination was identified on the site during the ground investigation (Ref 2).</p> <p><u>Evidence of Damage to Pollution Prevention Measures</u> None were observed during the site walkover survey (Ref 1) or ground investigation works (Ref 2).</p>
<p>Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)</p>	<p>No reports have been made available.</p>
<p>Baseline soil and groundwater reference data</p>	<p>An intrusive ground investigation was carried out by Arcadis to assess the soil and groundwater conditions for this environmental permit application site, BH101, BH102 and SA01 – SA06 were within the permit boundary. The investigation was reported within the Arcadis Abermule Business Park Geo-environmental and Geotechnical Assessment Report (Ref 2).</p>

For ease of reference the exploratory hole logs are included in Appendix C and baseline data for the soils and groundwater testing specific to the permitted area is included in Appendix D.

Table 1 summarises the exploratory holes within the permitted area.

Table 1: Summary of exploratory holes

Location ID	Hole Type	Final Depth (m bgl)	Comments
BH101	Cable Percussion	10.03	Target depth achieved.
BH102	Cable Percussion	5.10	Terminated due to refusal in coarse gravel.
SA01	Trial Pit	1.00	Pit terminated on engineer's instruction.
SA02	Trial Pit	1.00	Pit terminated on engineer's instruction.
SA03	Trial Pit	0.90	Pit terminated on engineer's instruction.
SA04	Trial Pit	0.80	Pit terminated on engineer's instruction.
SA05	Trial Pit	0.75	Pit terminated on engineer's instruction.
SA06	Trial Pit	0.70	Pit terminated on engineer's instruction.

Table 2 presents the groundwater levels for the boreholes within the permitted area.

Table 2: Summary of groundwater depths from post fieldwork monitoring

Location ID	Response Zone (m bgl)	Monitored Groundwater Level (m bgl)			
		22/01/19	30/01/19	07/02/19	14/02/19
BH101	6.5-10.0	4.04	3.97	3.95	3.91
BH102	3.0-5.0	4.00	3.92	3.92	3.20

The maximum steady state gas results are summarised in Table 3.

Table 3: Summary of ground gas monitoring results (maximum steady state) from all four post fieldwork monitoring rounds

Location ID	Flow (l/hr)	Atmospheric Pressure Range (mbar)	CH4 (%v/v)	CO2 (%v/v)
BH101	0	982 to 1019	0.1	0.2
BH102	0	983 to 1019	0.1	5.6

Supporting information	<ul style="list-style-type: none"> • Arcadis, Abermule Business Park, Phase 1 Geo-environmental Desk Study (Ref 1) • Arcadis, Abermule Business Park, Geo-environmental and Geotechnical Assessment Report (Ref 2)
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3.0 PERMITTED ACTIVITIES	
Permitted activities	A11- Household, Commercial and Industrial Waste Transfer Station.
Non-permitted activities undertaken	Application is for a new site not a former waste site.
Document references for: <ul style="list-style-type: none"> • plan showing activity layout; and • environmental risk assessment. 	<ul style="list-style-type: none"> - Site Boundary Plan (2395/M10/001), depicting boundary for permitted activities, included in Appendix B. - Proposed Site Plan, showing waste storage areas (2395/0000.002), included in Appendix B. - Proposed Surface Water Drainage Plan (2395/0500.001), included in Appendix B. - Environmental Risk Assessment (ref: 416.00798.00038_ERA)

3 REFERENCES

1. Arcadis, Abermule Business Park, Phase 1 Geo-environmental Desk Study, Ref: 0001-UA006590-26-UP32R-01, December 2017.
2. Arcadis, Abermule Business Park, Geo-environmental and Geotechnical Assessment Report, Ref: 10026414-ARC-00-XX-RP-ZZ-0003-02, May 2019.

APPENDIX A Limitations

IMPORTANT. This appendix should be read before reliance is placed on any of the information, opinions, advice, recommendations or conclusions contained in this report.

1 This report has been prepared by Arcadis Consulting (UK) Limited / Arcadis Consulting (UK) Limited ('Arcadis'), with all reasonable skill, care and diligence within the terms of the Appointment and with the resources and manpower agreed with Powys County Council (the 'Client'). Arcadis does not accept responsibility for any matters outside the agreed scope.

2 This report has been prepared for the sole benefit of the Client unless agreed otherwise in writing. The contents of this report may not be used or relied upon by any person other than this party without the express written consent and authorisation of Arcadis.

3 Unless stated otherwise, no consultations with authorities or funders or other interested third parties have been carried out. Arcadis is unable to give categorical assurance that the findings will be accepted by these third parties as such bodies may have unpublished, more stringent objectives. Further work may be required by these parties.

4 All work carried out in preparing this report has used, and is based on, Arcadis' professional knowledge and understanding of current relevant legislation. Changes in legislation or regulatory guidance may cause the opinion or advice contained in this report to become inappropriate or incorrect. In giving opinions and advice, pending changes in legislation, of which Arcadis is aware, have been considered. Following delivery of the report, Arcadis has no obligation to advise the Client or any other party of such changes or their repercussions.

5 This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report.

6 Whilst this report and the opinions made are correct to the best of Arcadis' belief, Arcadis cannot guarantee the accuracy or completeness of any information provided by third parties. provided by third parties. Arcadis has taken reasonable steps to ensure that the information sources used for this assessment provided accurate information and has therefore assumed this to be the case.

7 This report has been prepared based on the information reasonably available during the project programme. All information relevant to the scope may not have been received.

8 This report refers, within the limitations stated, to the condition of the Site at the time of the inspection. No warranty is given as to the possibility of changes in the condition of the Site since the time of the investigation.

9 The content of this report represents the professional opinion of experienced environmental consultants. Arcadis does not provide specialist legal or other professional advice. The advice of other professionals may be required.

10 Where intrusive investigation techniques have been employed they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature of sampling, no investigation technique is capable of identifying all conditions present in all areas. In some cases the investigation is further limited by Site operations, underground obstructions and above ground structures. Unless otherwise stated, areas beyond the boundary of the Site have not been investigated.

11 If below ground intrusive investigations have been conducted as part of the scope, safe location of exploratory holes has been carried out with reference to the Arcadis ground disturbances procedure. No guarantee can be given that all services have been identified. Additional services, structures or other below ground obstructions, not indicated on the drawing, may be present on Site.

12 Unless otherwise stated the report provides no comment on the nature of building materials, operational integrity of the facility or on any regulatory compliance issues

13 Unless otherwise stated, an inspection of the Site has not been undertaken and there may be conditions present at the Site which have not been identified within the scope of this assessment.

14 Unless otherwise stated, samples from the Site (soil, groundwater, building fabric or other samples) have not been obtained.

15 Arcadis has relied upon the accuracy of documents, oral information and other material and information provided by the Client and others, and Arcadis assumes no liability for the accuracy of such data, although in the event of apparent conflicts in information, Arcadis would highlight this and seek to resolve.

16 Unless otherwise stated, the scope of works has not included an environmental compliance review, health and safety compliance review, hazardous building materials assessment, interviews or contacting Local Authority, requests for information to the petroleum officer, sampling or analyses of soil, ground water, surface water, air or hazardous building materials or a chain of title review.

17 Unless otherwise stated, this assessment has considered the ongoing use of the Site and has not been prepared for the purposes of redevelopment which may act as a trigger for Site investigation and remediation works not needed for ongoing use.

APPENDIX B Figures

Plans as supplied by Powys County Council:

Survey Boundary and Location Plan

Existing Site Layout

Site Boundary Plan, depicting boundary for permitted activities

Proposed Site Plan

Proposed Surface Water Drainage Plan

This drawing should not be scaled and any dimensions verified on site. All dimensions are in millimetres unless otherwise stated.
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Notes

KEY

— Survey Boundary.

Amendments

Rev	Date	Description	By	Chkd
B	04/10/17	Inclusion of additional area within overall survey boundary. Addition of grid reference.	LMC	SK
A	25/04/17	Extended survey area added.	LMC	DB

Engineering Design Services

EDS West Manager: Steve Hallows cing mca 01545 572513 hpw@ceredigion.gov.uk
 West: County Hall, Market Street, Aberystwyth, Ceredigion, SY24 5AT

EDS East Manager: Gareth Price cing cwmra 0845 607 6060 its_helpdesk@powys.gov.uk
 East: Kilmarnock Road, Post Road, Newtown, Powys, SY16 3AF
 Note: County Hall, Six Road East, Llanfyllter, Powys, LD22 7JG
 South: Newydd Brynmorog, Canton Way, Brecon, Powys, LD3 7HW

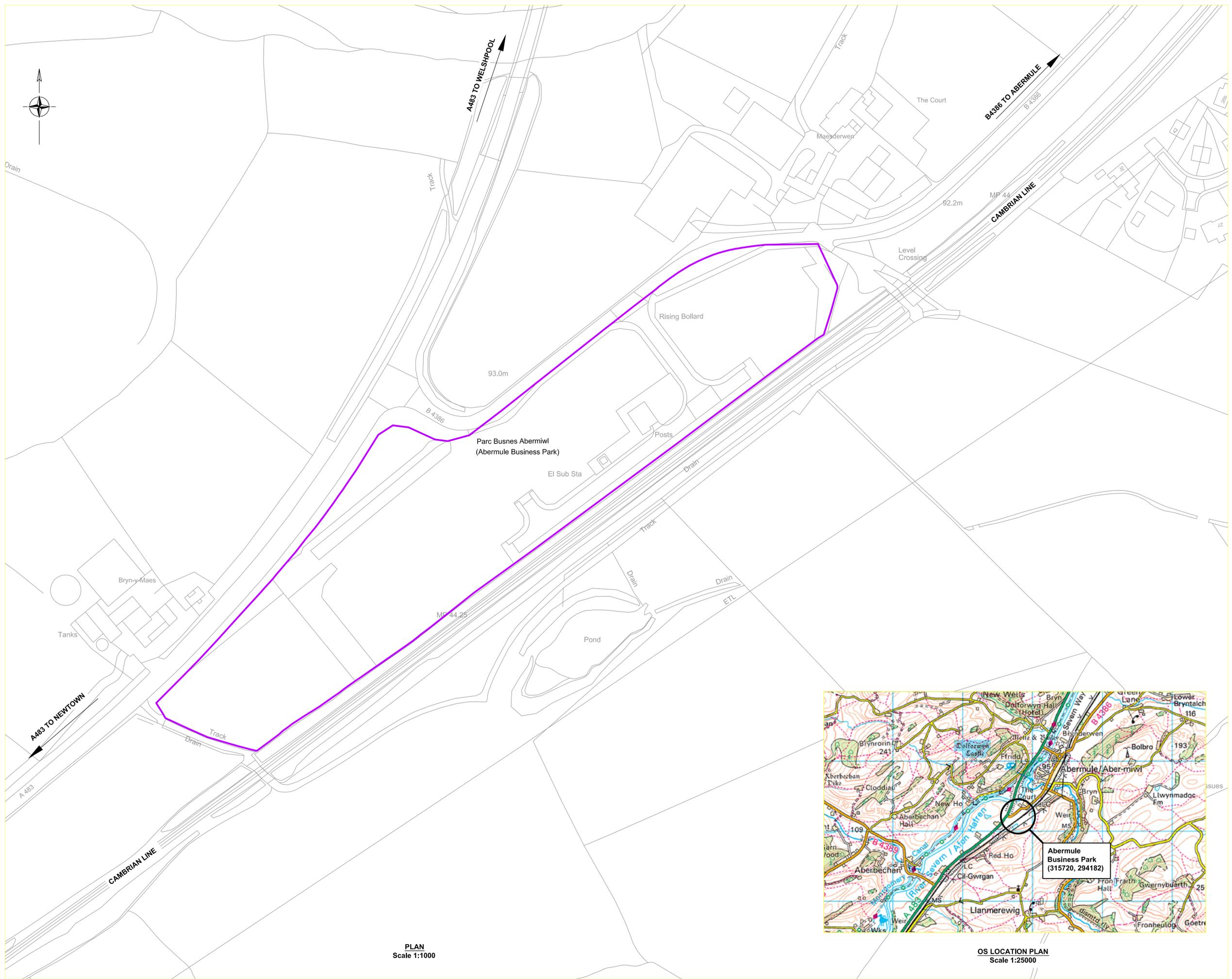
Abermule Business Park Development - Newtown Bulk Recycling Facility.

Drawing Title: **Survey Boundary and Location Plan.**

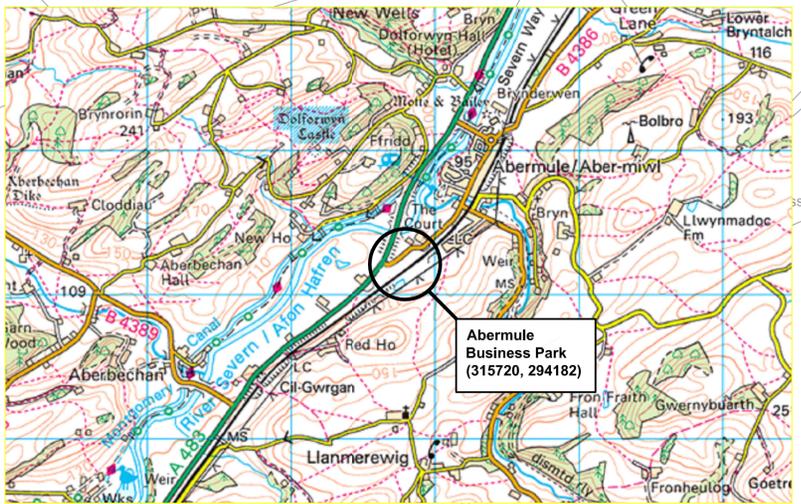
By: LMC Checked: DB Scale at A1: **1:1000**

Date: 08/03/17

Project Number: **H2395** Drawing Number: **2395/M01/001** Revision: **B**



PLAN
Scale 1:1000



OS LOCATION PLAN
Scale 1:25000

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Notes

ISSUED FOR PLANNING

KEY

-  Business Park Boundary.
-  14" Water Main (STW).
-  Development Exclusion Zone, Water Main.
-  Foul Rising Main (STW).
-  Development Exclusion Zone, Rising Main.
-  Underground Cable (BT).

Rev	Date	Description	By	Chkd

Amendments

Engineering Design Services
 EDS West Manager : Steve Hallows cing mick
 01545 572513 hgw@ceredigion.gov.uk
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 South : Newydd, Brochwylseg, Ceredigion Way, Spion-Koed, LD3 7NR

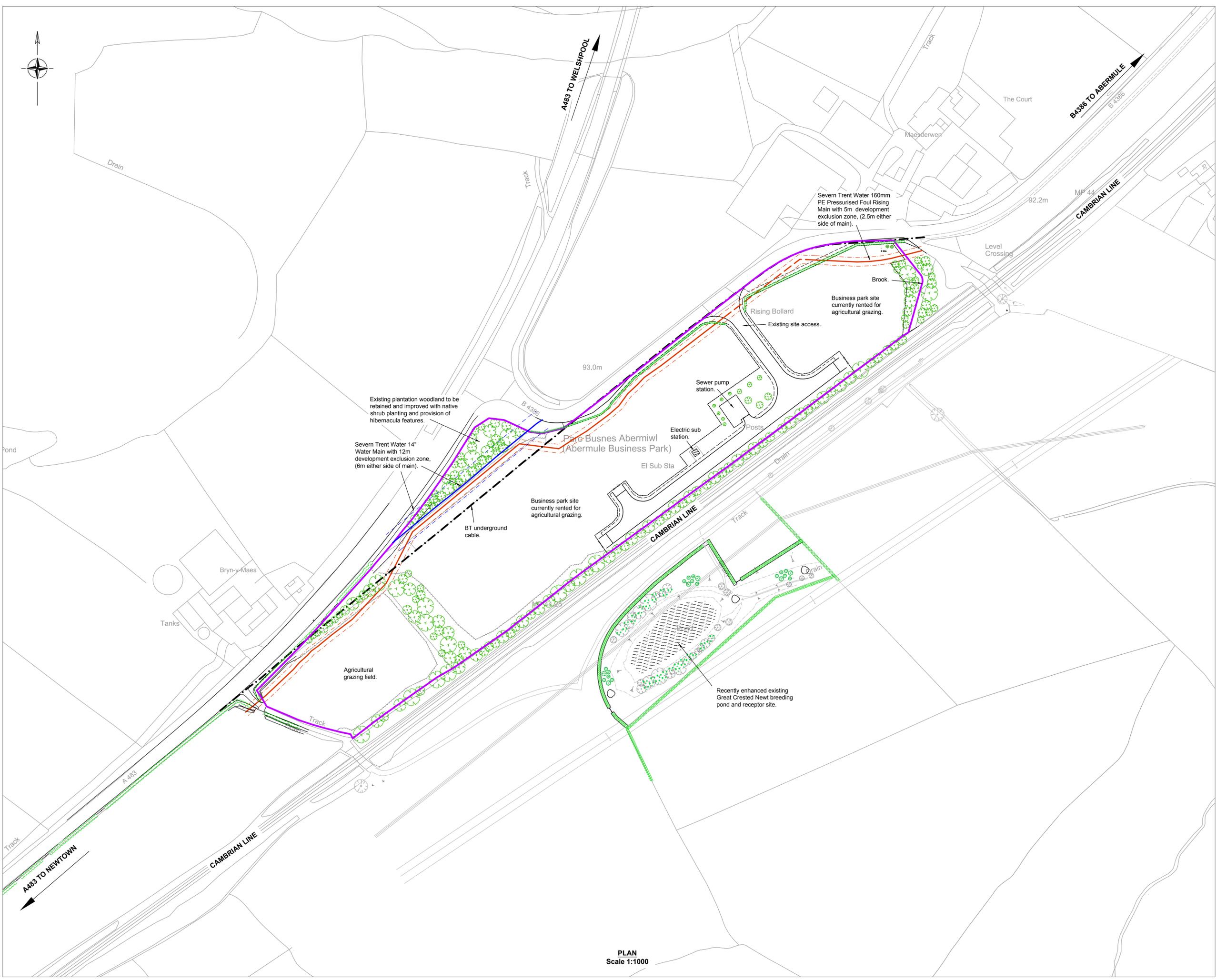
Project: **Abermule Business Park Development.**

Drawing Title: **Existing Site Layout.**

By	LMC	Checked	DB	Scale at A1	1:1000
Date	13/03/18				

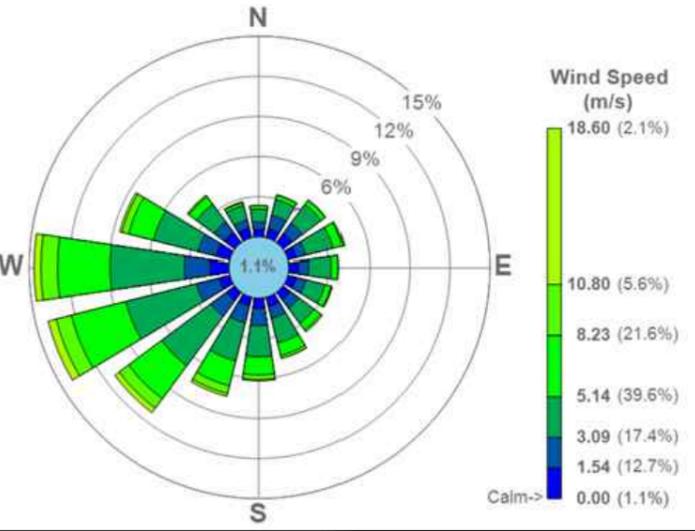
Project Number	H2395	Drawing Number	2395/P03/002	Revision	
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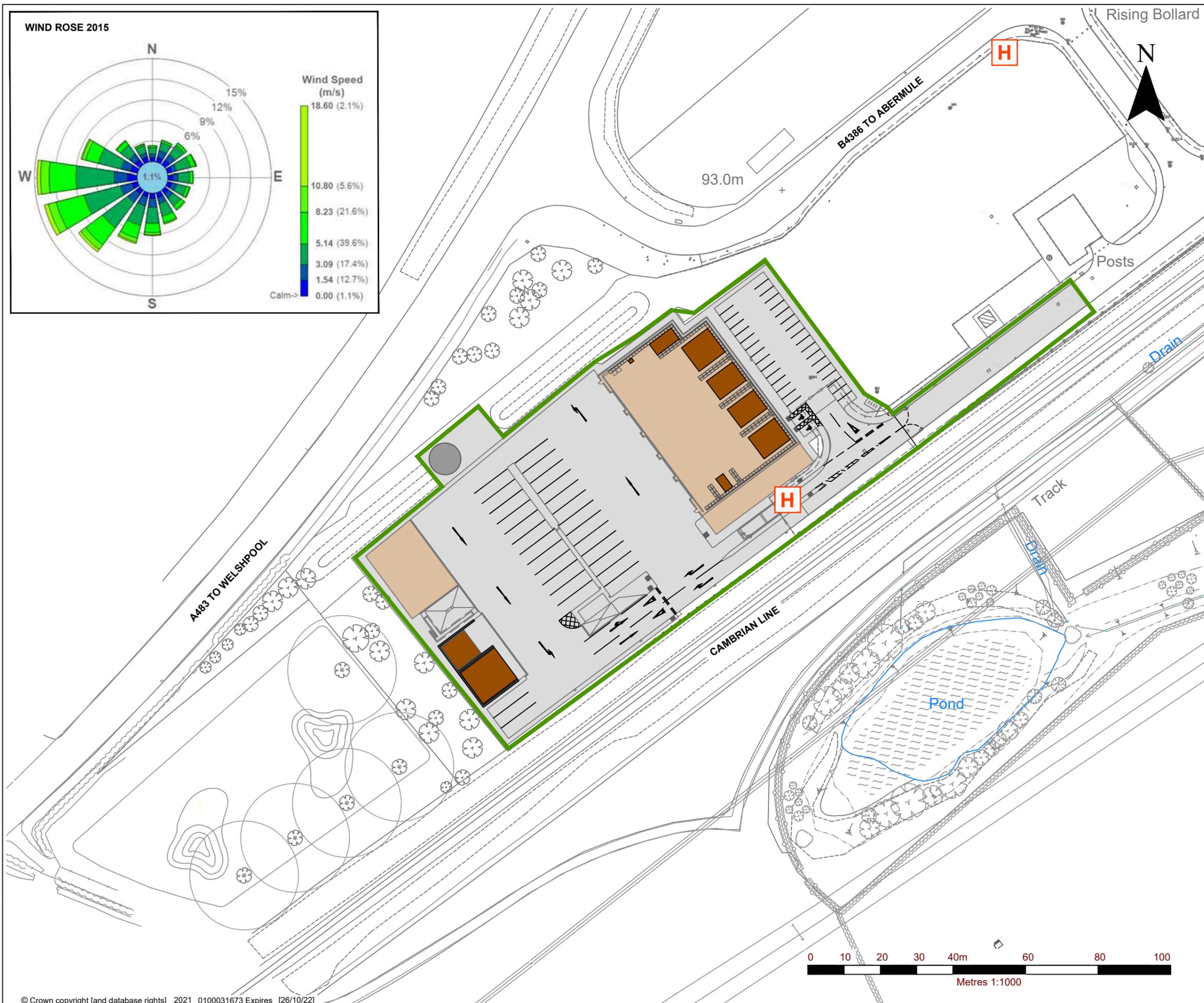
PLAN
 Scale 1:1000

WIND ROSE 2015



LEGEND

-  ENVIRONMENTAL PERMIT BOUNDARY
-  FIRE HYDRANT



SLR
global environmental solutions

3RD FLOOR
THE BREW HOUSE
JACOB STREET
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www.slrconsulting.com

NORTH POWYS BULKING FACILITY
ENVIRONMENTAL PERMIT APPLICATION
ENVIRONMENTAL PERMIT BOUNDARY

DRAWING 004

Scale 1:1000 @ A3	Date MAY 2022
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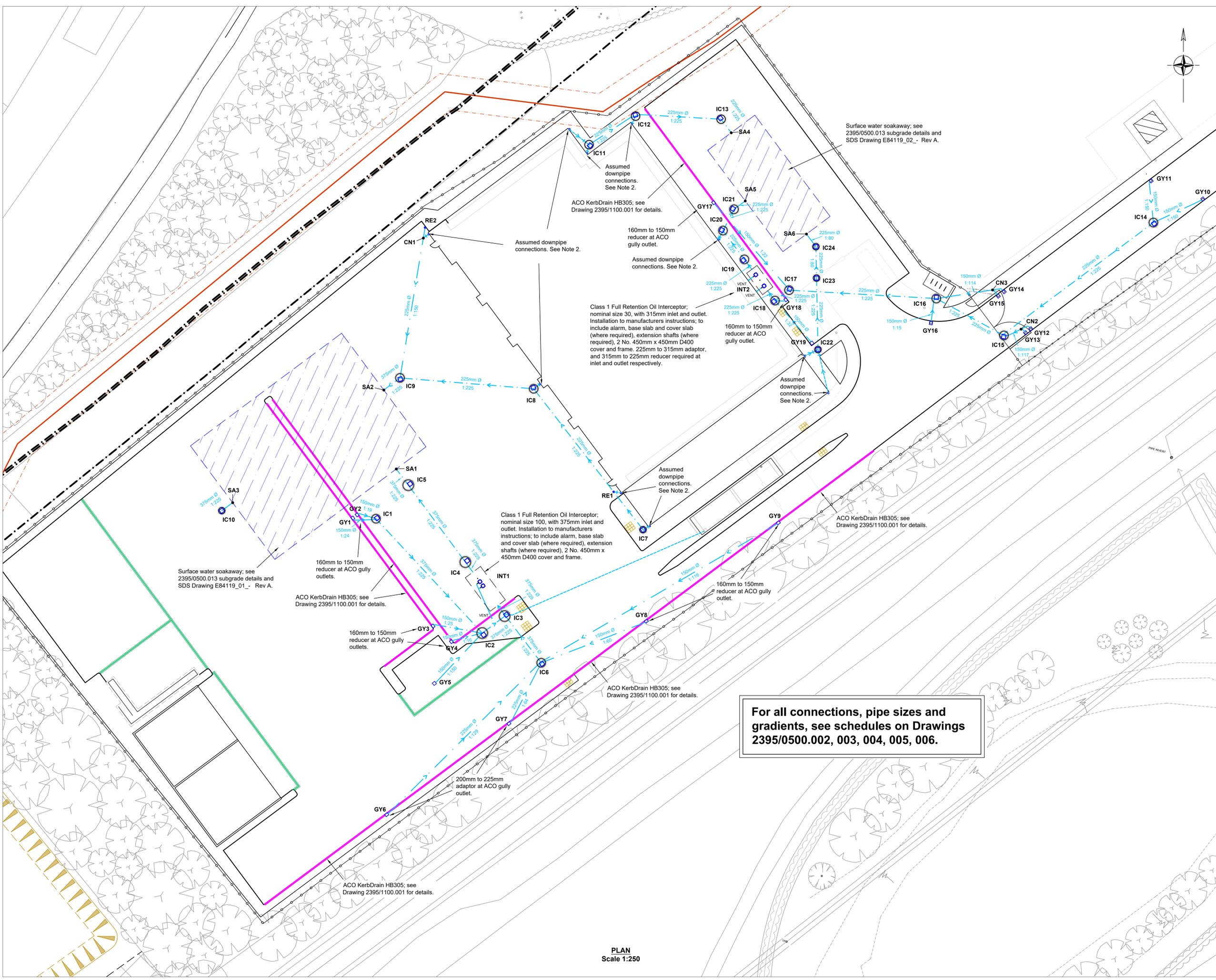
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Notes

- 1) Drawing to be used with Drawings 2395/0500.002, 003, 004, 005, 006, 011 & 013, Drawing 2395/1100.001, and SDS Drawings E84119_01_ - Rev A & E84119_02_ - Rev A.
- 2) Downpipe locations, gullies, connections and quantity subject to design and build of buildings.
- 3) Bed Types to Highway Construction Details. Backfill to drains to be Type 1 Subbase.

KEY

-  PVCu Surface Water Drain to Schedule.
-  Assumed Connection.
-  ACO KerbDrain HB305.
-  Chamber to Schedule.
-  Gully to Schedule.
-  Vent Pipe.
-  SDS Soakaway System.



Surface water soakaway; see 2395/0500.013 subgrade details and SDS Drawing E84119_02_ - Rev A.

ACO KerbDrain HB305; see Drawing 2395/1100.001 for details.

160mm to 150mm reducer at ACO gully outlet.

Assumed downpipe connections. See Note 2.

Class 1 Full Retention Oil Interceptor; nominal size 30, with 315mm inlet and outlet. Installation to manufacturers instructions; to include alarm, base slab and cover slab (where required), extension shafts (where required), 2 No. 450mm x 450mm D400 cover and frame. 225mm to 315mm adaptor, and 315mm to 225mm reducer required at inlet and outlet respectively.

Assumed downpipe connections. See Note 2.

Class 1 Full Retention Oil Interceptor; nominal size 100, with 375mm inlet and outlet. Installation to manufacturers instructions; to include alarm, base slab and cover slab (where required), extension shafts (where required), 2 No. 450mm x 450mm D400 cover and frame.

Surface water soakaway; see 2395/0500.013 subgrade details and SDS Drawing E84119_01_ - Rev A.

ACO KerbDrain HB305; see Drawing 2395/1100.001 for details.

160mm to 150mm reducer at ACO gully outlets.

ACO KerbDrain HB305; see Drawing 2395/1100.001 for details.

For all connections, pipe sizes and gradients, see schedules on Drawings 2395/0500.002, 003, 004, 005, 006.

PLAN
Scale 1:250

Rev	Date	Description	By	Chkd

Amendments

Engineering Design Services
 EDS West Manager : Steve Hallows cEng MICE
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 Powys : Industrial Estate, Four Road, Newnham, Powys, SY18 5AF
 CCSC & CWC

**Abermule Business Park Development.
 Recycling Bulking Facility.**

Proposed Surface Water Drainage Plan.

By: LN, Checked: DB, Date: 10/07/19, Scale: 1:250

Project Number	2395/0500.001
Revision	



APPENDIX C Exploratory Hole Logs

Project
Abermule Business Park
 Client
Powys County Council

Project No.
10026414
 Easting (OS mE)
315670.18

Ground Level (mAOD)
92.03
 Northing (OS mN)
294168.74

Start Date
10/01/2019
 End Date
11/01/2019

Scale
1:50

Sheet 1 of 1

SAMPLES		TESTS			Water Strikes	PROGRESS		STRATA				Depth (Thickness)	Level	Install/ Backfill
Depth	Type/ No.	Depth	Type/ No.	Results		Date Time	Casing Water	Description			Legend			
0.00 - 0.50 0.00 - 0.50	B2 ES1				10/01/2019 08:00		Grass over soft dark greyish brown slightly sandy gravelly SILT. Gravel is subangular to subrounded fine to coarse of siltstone.				(0.50)			
0.50 - 1.20 0.50 - 1.20	B4 ES3	0.50	PID	<1ppm			Dark purplish brown and dark greenish grey very clayey sandy subrounded fine to coarse GRAVEL of mudstone, siltstone and quartz.				0.50	91.53		
1.20 - 1.65 1.20 - 1.65	B6 D5	1.20	SPT(S) PID	N=32 (5,5/8,9,8,7) <1ppm							(1.10)			
2.00 - 2.45 2.00 - 2.45	B8 D7	2.00	SPT(S)	N=47 (4,9/9,12,14,12)			Dense dark purplish brown and grey very sandy clayey subangular to subrounded fine to coarse GRAVEL of mudstone and siltstone with low cobble content. Cobbles are subangular to subrounded of siltstone.				1.60	90.43		
3.00 - 3.45 3.00 - 3.45	B10 D9	3.00	SPT(S)	N=32 (7,7/9,8,7,8)										
4.00 - 4.45 4.00 - 4.45	B12 D11	4.00	SPT(S)	N=28 (3,6/3,11,7,7)			Below 4.00m becomes slightly clayey.							
5.00 - 5.45 5.00 - 5.45	B14 D13	5.00	SPT(S)	N=22 (4,7/5,2,3,12)			Between 5.00 and 5.45m medium dense.							
6.00 - 6.45 6.00 - 6.45	B16 D15	6.00	SPT(S)	N=47 (7,7/11,11,10,15)							(8.43)			
7.00 - 7.45 7.00 - 7.45	B18 D17	7.00	SPT(S)	N=41 (4,9/9,11,10,11)			Between 7.45 and 8.95m medium cobble content.							
8.50 - 8.95 8.50 - 8.95	B20 D19	8.50	SPT(S)	N=46 (9,9/14,12,8,12)										
		10.00	SPT(S)	N>50 (25 for 1mm/50 for 2mm)	11/01/2019 10:00		Below 9.50m becomes dark grey and black.				10.03	82.00		

DRILLING TECHNIQUE		CHISELLING			WATER OBSERVATIONS				HOLE/CASING DIAMETER			WATER ADDED						
From	To	Type	Hard Strata From	To	Duration	Date/Time	Strike At	Time Elapsed	Rise To	Casing	Sealed	Hole Dia.	Depth	Casing Dia.	Depth	From	To	Volume (ltr)
0.00	1.20	Inspection Pit				10/01/2019 11:00	4.00	20	3.20	4.00		200	10.00	200	10.00	1.20	10.00	
1.20	10.03	Cable Percussion				10/01/2019 15:00	7.00	20	3.70	7.00								

Remarks
 Terminated on engineers instruction.

Termination Depth:
10.03m



Unless otherwise stated:
 Depth (m), Diameter (mm), Time (hhmm),
 Thickness (m), Level (mOD).

Equipment Used
Dando 3000

Contractor
Arcadis Consulting (UK) Ltd

Logged By
BR

Checked By
CP

Project
Abermule Business Park
 Client
Powys County Council

Project No.
10026414
 Easting (OS mE)
315704.47

Ground Level (mAOD)
92.00
 Northing (OS mN)
294160.82

Start Date
08/01/2019
 End Date
09/01/2019

Scale
1:50
 Sheet 1 of 1

SAMPLES		TESTS			Water Strikes	PROGRESS		STRATA				Depth (Thickness)	Level	Install/ Backfill
Depth	Type/ No.	Depth	Type/ No.	Results		Date Time	Casing Water	Description			Legend			
0.00 - 0.50	ES1				08/01/2019 10:00		Grass over dark greyish brown soft slightly sandy gravelly SILT. Gravel is subangular elongate fine to coarse of siltstone.				(0.50)			
0.50	B2	0.50	PID	<1ppm			Dense grey and brown sandy clayey angular to subangular fine to coarse GRAVEL of mudstone and siltstone. With low cobble content of subrounded siltstone.				0.50	91.50		
0.50 - 1.20	ES3													
1.20 - 1.65	B5	1.20	SPT(S)	N=33 (7,7/7,7,9,10)			Driller notes boulders below 2.70m.							
1.20 - 1.65	D4	1.20	PID	<1ppm										
2.00 - 2.45	B7	2.00	SPT(S)	N=72 (7,12/14,17,18,23)										
2.00 - 2.45	D6													
3.00 - 3.45	B9	3.00	SPT(S)	N>50 (14,11/36,21,0 for 0mm)										
3.00 - 3.45	D8													
4.00 - 4.45	B11	4.00	SPT(S)	N>50 (14,19/25,21,0 for 0mm)										
4.00 - 4.45	D10													
5.00 - 5.03	D12	5.00	SPT(S)	N>50 (25 for 10mm/50 for 25mm)	09/01/2019 14:00						5.10	86.90		

DRILLING TECHNIQUE			CHISELLING			WATER OBSERVATIONS					HOLE/CASING DIAMETER			WATER ADDED				
From	To	Type	Hard Strata		Duration	Date/Time	Strike At	Time Elapsed	Rise To	Casing	Sealed	Hole Dia.	Depth	Casing Dia.	Depth	From	To	Volume (ltr)
0.00	1.20	Inspection Pit	5.00	5.10	00:45							200	5.00	200	5.10	1.20	5.10	
1.20	5.10	Cable Percussion																

Remarks
 Borehole commenced in 150mm casing. Due to coarse fractions and dense ground conditions 200mm casing was used to drill borehole.
 Terminated on engineers instruction.

Termination Depth:
5.10m

Project
Abermule Business Park
Client
Powys County Council

Project No.
10026414
Easting (OS mE)
315624.75

Ground Level (mAOD)
92.12
Northing (OS mN)
294149.13

Start Date
11/01/2019
End Date
11/01/2019

Scale
1:25
Sheet 1 of 1

SAMPLES		TESTS			Water Strikes	STRATA		Depth (Thickness)	Level	Install/ Backfill
Depth	Type/ No.	Depth	Type/ No.	Results		Description	Legend			
0.00 - 0.10	D2	0.10	PID	<1ppm		Grass over soft greyish brown slightly sandy slightly gravelly SILT with many roots. Gravel is subangular to subrounded fine to coarse of siltstone and mudstone.		(0.10)	92.02	
0.00 - 0.10	ES1					Firm orangish brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded of siltstone and mudstone.		0.10		
0.30 - 0.50	B5	0.50	PID	<1ppm		Brown gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of mudstone, siltstone and quartzite.		(0.50)	91.52	
0.30 - 0.50	D4							0.60		
0.30 - 0.50	ES3							(0.30)		
0.60 - 0.90	B6					Firm brown sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mudstone and siltstone.		0.90	91.22	
								(0.10)	91.12	
								1.00		

PLAN DETAILS 1.8 0.5	Remarks Soakway infiltration test undertaken. Pit terminated on engineers instruction. <div style="border: 1px solid black; padding: 5px; width: fit-content;"> Termination Depth: 1.00m </div>
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Project
Abermule Business Park
Client
Powys County Council

Project No.
10026414
Easting (OS mE)
315637.41

Ground Level (mAOD)
92.09
Northing (OS mN)
294133.42

Start Date
10/01/2019
End Date
10/01/2019

Scale
1:25
Sheet 1 of 1

SAMPLES		TESTS			Water Strikes	STRATA		Depth (Thickness)	Level	Install/ Backfill				
Depth	Type/ No.	Depth	Type/ No.	Results		Description	Legend							
0.00 - 0.20	D2	0.20	PID	<1ppm		Grass over soft greyish brown slightly sandy slightly gravelly SILT with many roots. Gravel is subangular to subrounded fine to coarse of siltstone and mudstone.		(0.20)	91.89					
0.00 - 0.20	ES1					Soft to firm grey bedded orange sandy slightly gravelly CLAY. Gravel is subangular to subrounded of siltstone and mudstone.		0.20						
0.30 - 0.50	B5	0.50	PID	<1ppm			Brown very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of mudstone, siltstone, limestone, quartzite.		0.60	91.49				
0.30 - 0.50	D4											Firm brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of mudstone, and siltstone.		0.35
0.30 - 0.50	ES3				0.95									
0.70 - 0.90	B6	0.90	PID	<1ppm				1.00						
0.70 - 0.90	D8													
0.70 - 0.90	ES7													

<p>PLAN DETAILS</p> <p>1.7 0.5</p> <p>Long Axis Orientation:</p> <p>Shoring / Support: None</p> <p>Stability: Stable</p> <p>Groundwater (description):</p>	<p>Remarks</p> <p>Soakway infiltration test undertaken. Pit terminated on engineers instruction.</p> <p>Termination Depth: 1.00m</p>
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Project
Abermule Business Park
Client
Powys County Council

Project No.
10026414
Easting (OS mE)
315640.74

Ground Level (mAOD)
92.08
Northing (OS mN)
294148.25

Start Date
11/01/2019
End Date
11/01/2019

Scale
1:25
Sheet 1 of 1

SAMPLES		TESTS			Water Strikes	STRATA		Depth (Thickness)	Level	Install/ Backfill
Depth	Type/ No.	Depth	Type/ No.	Results		Description	Legend			
0.00 - 0.20	D2	0.20	PID	<1ppm		Grass over soft greyish brown slightly sandy slightly gravelly SILT with many roots. Gravel is subangular to subrounded fine to coarse of siltstone and mudstone.		(0.20)	91.88	
0.00 - 0.20	ES1					Brown very clayey sandy subangular to subrounded fine to coarse GRAVEL of mudstone, siltstone and sandstone.		0.20		
0.30 - 0.50	B5	0.50	PID	<1ppm		Brown gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of mudstone, sandstone and siltstone.		(0.30)		
0.30 - 0.50	D4					Firm brown sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mudstone, and siltstone.		0.50		
0.30 - 0.50	ES3				0.80					
0.60 - 0.80	B6						(0.30)	91.58		
								0.90	91.18	

<p>PLAN DETAILS</p> <p>Long Axis Orientation:</p> <p>Shoring / Support: None</p> <p>Stability: Stable</p> <p>Groundwater (description):</p>	<p>Remarks</p> <p>Soakway infiltration test undertaken. Pit terminated on engineers instruction.</p> <p>Termination Depth: 0.90m</p>
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Project
Abermule Business Park
 Client
Powys County Council

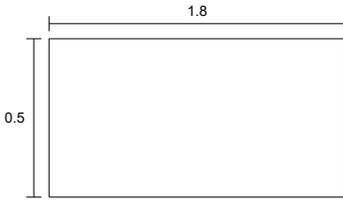
Project No.
10026414
 Easting (OS mE)
315662.68

Ground Level (mAOD)
92.02
 Northing (OS mN)
294152.51

Start Date
10/01/2019
 End Date
10/01/2019

Scale
1:25
 Sheet 1 of 1

SAMPLES		TESTS			Water Strikes	STRATA		Depth (Thickness)	Level	Install/ Backfill
Depth	Type/ No.	Depth	Type/ No.	Results		Description	Legend			
0.00 - 0.20	D2	0.20	PID	<1ppm		Grass over soft greyish brown slightly sandy slightly gravelly SILT with many roots. Gravel is subangular to subrounded fine to coarse of siltstone and mudstone.		(0.20)	91.82	
0.00 - 0.20	ES1					Soft to firm grey bedded orange sandy slightly gravelly CLAY. Gravel is subangular to subrounded of siltstone and mudstone.				
0.40 - 0.60	B5	0.60	PID	<1ppm				(0.60)	91.22	
0.40 - 0.60	D4									
0.40 - 0.60	ES3									

PLAN DETAILS  <p>Long Axis Orientation:</p> <p>Shoring / Support: None</p> <p>Stability: Stable</p> <p>Groundwater (description):</p>	Remarks Soakway infiltration test undertaken. Pit terminated on engineers instruction. <div style="border: 1px solid black; padding: 5px; width: fit-content;"> Termination Depth: 0.80m </div>
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Project
Abermule Business Park
Client
Powys County Council

Project No.
10026414
Easting (OS mE)
315651.13

Ground Level (mAOD)
91.93
Northing (OS mN)
294168.98

Start Date
10/01/2019
End Date
10/01/2019

Scale
1:25
Sheet 1 of 1

SAMPLES		TESTS			Water Strikes	STRATA		Depth (Thickness)	Level	Install/ Backfill
Depth	Type/ No.	Depth	Type/ No.	Results		Description	Legend			
0.00 - 0.30	B3	0.30	PID	<1ppm		Grass over soft greyish brown slightly sandy slightly gravelly CLAY with many roots. Gravel is subangular to subrounded fine to coarse of siltstone and mudstone.		(0.30)	91.63	
0.00 - 0.30	D2 ES1					Soft to firm orangish brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of siltstone and mudstone.		0.30		
0.50 - 0.70	B6	0.70	PID	<1ppm				(0.45)	91.18	
0.50 - 0.70	D5									
0.50 - 0.70	ES4									

<p>PLAN DETAILS</p>	<p>Remarks</p> <p>Soakway infiltration test undertaken. Pit terminated on engineers instruction.</p> <p style="text-align: right;">Termination Depth: 0.75m</p>
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Project
Abermule Business Park
 Client
Powys County Council

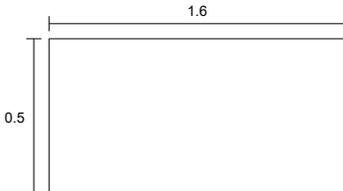
Project No.
10026414
 Easting (OS mE)
315712.15

Ground Level (mAOD)
91.81
 Northing (OS mN)
294193.97

Start Date
10/01/2019
 End Date
10/01/2019

Scale
1:25
 Sheet 1 of 1

SAMPLES		TESTS			Water Strikes	STRATA		Depth (Thickness)	Level	Install/ Backfill
Depth	Type/ No.	Depth	Type/ No.	Results		Description	Legend			
0.00 - 0.20	D2	0.20	PID	<1ppm		Grass over soft greyish brown slightly sandy slightly gravelly SILT with many roots. Gravel is subangular to subrounded fine to coarse of siltstone and mudstone.		(0.20)	91.61	
0.00 - 0.20	ES1					Firm orangish brown and yellowish brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of siltstone and mudstone.				
0.40 - 0.60	B5	0.60	PID	<1ppm				(0.50)	91.11	
0.40 - 0.60	D4									
0.40 - 0.60	ES3									

PLAN DETAILS  <p>Long Axis Orientation:</p> <p>Shoring / Support: None</p> <p>Stability: Stable</p> <p>Groundwater (description):</p>	Remarks Soakway infiltration test undertaken. Pit terminated on engineers instruction. <div style="border: 1px solid black; padding: 5px; width: fit-content;"> Termination Depth: 0.70m </div>
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APPENDIX D Summary of Soils and Groundwater Laboratory Data

Lab Sample Number				1132073	1132074	1132075	1131913	1131914	1131915	1131916
Sample Reference				BH101	BH102	BH102	SA01	SA01	SA05	SA06
Sample Number				None Supplied	None Supplied	None Supplied	1	3	1	1
Depth (m)				0.00-0.50	0.00-0.50	1.20-1.65	0.00-0.10	0.30-0.50	0.00-0.30	0.00-0.20
Date Sampled				Deviating						
Time Taken				None Supplied						
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status							
Stone Content	%	0.1	NONE	< 0.1	< 0.1	20	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	19	19	11	15	9.0	16	19
Total mass of sample received	kg	0.001	NONE	1.3	1.1	1.6	1.2	1.3	1.1	1.8

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected						

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.6	6.7	7.2	7.5	7.2	7.0	6.4
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.016	0.013	0.0081	0.015	0.012	0.016	0.013

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.26	< 0.05	< 0.05	0.53	< 0.05	0.51	0.25
Pyrene	mg/kg	0.05	MCERTS	0.24	< 0.05	< 0.05	0.51	< 0.05	0.47	0.25
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.43	< 0.05	0.31	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.31	< 0.05	0.30	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.57	< 0.05	0.45	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.20	< 0.05	0.24	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.45	< 0.05	0.39	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.27	< 0.05	0.22	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.29	< 0.05	0.23	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	3.56	< 0.80	3.12	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.3	12	11	9.3	13	8.5	9.2
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	1.3	< 0.2	1.1	0.3	1.4	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	38	40	28	35	36	34	38
Copper (aqua regia extractable)	mg/kg	1	MCERTS	30	29	34	28	41	26	26
Lead (aqua regia extractable)	mg/kg	1	MCERTS	31	29	17	31	27	31	31
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	36	37	37	32	44	34	35
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	130	98	110	110	120	120

Monoaromatics

Benzene	ug/kg	1	MCERTS	-	< 1.0	-	< 1.0	-	< 1.0	-
Toluene	ug/kg	1	MCERTS	-	< 1.0	-	< 1.0	-	< 1.0	-
Ethylbenzene	ug/kg	1	MCERTS	-	< 1.0	-	< 1.0	-	< 1.0	-
p & m-xylene	ug/kg	1	MCERTS	-	< 1.0	-	< 1.0	-	< 1.0	-
o-xylene	ug/kg	1	MCERTS	-	< 1.0	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	ug/kg	1	MCERTS	-	< 1.0	-	< 1.0	-	< 1.0	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0	-	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	-	< 8.0	-	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	-	< 8.0	-	< 8.0	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	-	< 10	-	< 10	-

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0	-	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	-	< 10	-	< 10	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10	-	13	-	22	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	-	16	-	26	-

Lab Sample Number				1146179	1146180
Sample Reference				BH101	BH102
Sample Number				1	1
Depth (m)				8.00-8.00	4.50-4.50
Date Sampled				30/01/2019	30/01/2019
Time Taken				1400	1330
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH Units	N/A	ISO 17025	7.3	7.1
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO ₄	µg/l	45	ISO 17025	46800	49900
Sulphate as SO ₄	mg/l	0.045	ISO 17025	46.8	49.9
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	1.44	-
Alkalinity	mgCaCO ₃ /l	3	ISO 17025	230	230
Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	282	-

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	< 3.5
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.22	0.62
Boron (dissolved)	µg/l	10	ISO 17025	63	96
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.08
Calcium (dissolved)	mg/l	0.012	ISO 17025	90	-
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	2.8	2.8
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Magnesium (dissolved)	mg/l	0.005	ISO 17025	14	-
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.4	12
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.7	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.9	5.6

Monoaromatics

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

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