Vale Consultancy

CONSULTING CIVIL & STRUCTURAL ENGINEERS

DRAINAGE STRATEGY REPORT (DSR)

Demolition of Existing Dwelling and Erection of Replacement Dwelling
Tanyffordd,
Ruthin Road,
Bwlchgwyn,
Wrexham,
LL11 5UU

Prepared for: Clwydian Planning
Project Ref: 23589_DSR

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DOCUMENT CONTROL

Project:	Demolition of Existing Dwelling and Erection of Replacement Dwelling Tanyffordd, Ruthin Road, Bwlchgwyn, Wrexham LL11 5UU
Client:	Clwydian Planning
Vale Consultancy Ref:	23589_DSR

Issue	Prepared by	Approved by	Date	Status
01	Ellie Lebbon BSc (Hons), MSc	Jack Price BSc (Hons)	13.03.2026	First issue

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1 INTRODUCTION

1.1 Site Location

Vale Consultancy has been instructed by Clwydian Planning (the Client) to undertake a foul drainage strategy report (DSR) for the demolition of an existing dwelling and the erection of a replacement dwelling at Tanyffordd, Ruthin Road, Bwlchgwyn, Wrexham, LL11 5UU.

Refer to **Appendix A** – Existing Site Plans

The proposed development is located at the end of a private driveway adjacent to the A525 (Ruthin Road). The proposed development is located approximately 745m west from the centre of Bwlchgwyn and approximately 8.4km northwest from the centre of Wrexham.

The site is an existing residential dwelling, which will be demolished and will be replaced by a new residential dwelling, therefore, the site is classified as '*brownfield*'. The following drainage strategy will cover the foul drainage for the proposed development only.



Figure 1: *Site Location Satellite Plan*

1.2 Land Topography

A topographical survey was undertaken at the site and it shows that levels on Ruthin Road are approximately 331.5m AOD, and levels at the northern end of the existing garden is approximately 321.9m AOD. This shows a difference of approximately 9.6m from the southeastern to the northwestern areas of the site.

LiDAR Composite DTM Data has also been obtained in order to understand the topography within the vicinity of the site. LiDAR data also suggests that the land to the southeast of the site also falls to the northwest.

Refer to **Appendix B** for the Topographical Survey.

1.3 Proposed Development

The proposed development includes the demolition of an existing residential dwelling and the erection of a new residential dwelling.

The area of the existing residential dwelling is approximately 91.2m^2. The proposed area of the new residential dwelling is approximately 200.5m^2. Therefore, there will be an increase hardstanding area of approximately 109.3m^2.

The number of occupants who will reside in the proposed dwelling is 7.

Refer to **Appendix C** – Proposed Plans

1.4 Existing Geology

British Geological Survey records note that the site is listed to have the following:

Superficial deposits: Not indicated to be underlain by superficial deposits.

Bedrock geology: The proposed new dwelling is indicated to be underlain by Cefn-y-fedw Sandstone Formation-Interbedded sandstone and [subequal/subordinate] argillaceous rocks. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).

The northern area of the site is indicated to be underlain by bedrock of Minera Formation-Interbedded limestone and [subequal/subordinate] sandstone. These sedimentary rocks are shallow-marine in origin. They are detrital and biogenic, generally comprising fine-grained sediments, with carbonate material (coral, shell fragments forming interbedded sequences.

Soilscapes describes the site as '*freely draining slightly acid loamy soils'.*

Refer to **Appendix D** which includes the British Geological Survey record.

1.5 Flood Risk

Flood risk at the site has been assessed using the Flood Risk Assessment Wales Map (FRAWM) and detailed view map. The site is not indicated to be within an area at risk of fluvial flooding, flooding from the sea, flooding from surface water and small watercourses, or flooding from reservoirs. The site is also not indicated to have experienced historic flooding and is not located in an area benefitting from flood risk defences. Further flood risk assessment is not considered necessary.

Refer to **Appendix E** – Flood Risk Assessment Wales Map (FRAWM)

2 FOUL WATER

2.1 Existing Drainage Systems

Review of DCWW asset mapping does not indicate that there are any existing public foul sewers within the site or in the vicinity of the site. Asset mapping indicates that the nearest foul or combined sewer shown on the DCWW mapping is approximately 160m northeast from the site.

The existing site is currently served by a septic tank, which has been located as part of the topographical survey indicates that there is on the site.

2.2 Proposed Drainage Systems

The proposed foul drainage solution for the development is to discharge treated effluent to a drainage field.

The proposed package treatment plant, Klargester BioDisc BA-X, is a submerged aeration plant that is suitable for domestic properties for up to 9 people. The treatment plant will treat the effluent before discharging to the ground via perforated pipes via the use of a drainage field.

Refer to **Appendix F** for the Klargester BioDisc BA-X specification.

Foul percolation testing to BS6297 was undertaken by the client in February 2026. The trial pit was located 20m from the proposed dwelling footprint and was excavated to 700mm x 700mm x 500mm deep.

A 300mm x 300mm x 300mm window was dug at the base of the trial pit, as per BS6297.

Refer to **Appendix G** for the results of the percolation testing.

The calculations for the sizing of the drainage field, as per Building Regulations 2010 (Drainage and waste disposal) are demonstrated below:

$$A_t = p \times V_p \times 0.20$$

$$A_t = 7 \times 34 \times 0.20 = 47.60m^2$$

The value of 0.20 was used for the calculations instead of 0.25 as the drainage field will provide secondary treatment, as per BS6297.

The minimum required drainage field area is 47.60m^2. The proposed drainage field has been sized as 24.5m x 3.8m (providing total trench area of 47.79m^2).

As discussed in Section 1.4, BGS mapping indicates that the site is partially underlain by Minera Formation-Interbedded limestone and sandstone. Limestone poses a risk of dissolution, therefore, the drainage field has been located at least 10m from all non-habitable buildings. This is to ensure that the drainage field does not undermine the existing building foundations.

The drainage field has been designed in line with both the building regulations and BS6297.

Refer to **Appendix H** for the Foul Drainage Strategy Drawing.

Refer to **Appendix I** for the Construction Details.

2.3 NRW Screening

NRW has a statutory duty to determine, on the basis of objective scientific evidence, whether any discharge into or in the vicinity of a SAC would result in an adverse effect on site integrity, including through increased nutrient loading.

NRW state that there are specific standards which sites must adhere in order to not have any significant effect on SACs or nutrient sensitive areas, see below:

- Private sewage treatment system which discharges to ground
- Built to the British Standard
- Daily maximum discharge rate of less than 2 cubic metres
- Located at least 40m from Nan Y Ffrith watercourse
- Located at least 50m from a SAC boundary
- At least 50m from any known discharges to ground

The site satisfies all of the above and therefore it is not considered likely that the site will have any adverse effect on the River Dee SAC.

2.4 Maintenance

Maintenance of the proposed foul drainage system will be the responsibility of the landowner. A sampling chamber is proposed downstream from the treatment plant where water should be tested as a part of the NRW permit which ensures that the treatment works are managed effectively throughout its design life.

3 CONCLUSIONS

The proposed development is for the demolition of an existing dwelling and the construction of a larger residential dwelling.

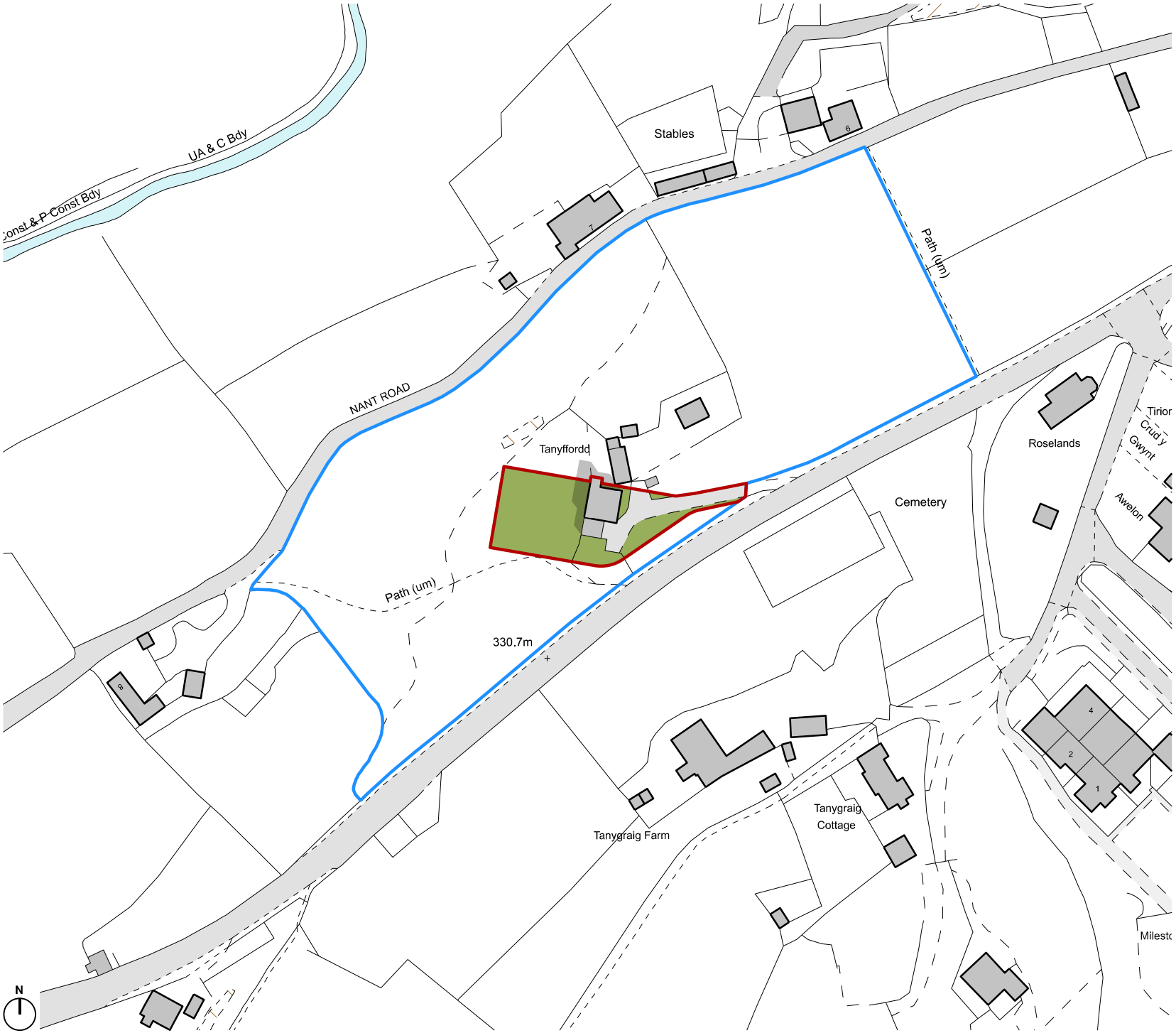
There is no evidence of any existing foul water sewers within the vicinity of the site. Asset mapping indicates that the nearest foul or combined sewer shown on the DCWW mapping is approximately 160m northeast from the site.
The topographical survey indicates that there is an existing septic tank to the northwest of the site, therefore, it is assumed that this is the existing method of wastewater disposal.

The proposed foul water drainage solution is to discharge effluent to a drainage field via Klargester BioDisc BA-X). The treatment plant will treat the effluent before discharge to the drainage field where the treated effluent will be allowed to naturally percolate into the ground via perforated pipes.

Following guidance from NRW, the site is not likely to have a significant effect on the River Dee SAC in relation to nutrients.

APPENDIX A:

Existing Site Plans



Drawing Key

- Site Boundary (1122m²)
- Ownership Boundary
- Existing Buildings
- Existing Driveway
- Existing Fence/Boundary
- Existing Garden

Clwydian Planning

55 Well Street, Ruthin
Denbighshire, LL15 1AF
www.clwydianplanning.co.uk
07738 291 642
mail@clwydianplanning.co.uk

Project. Tanyffordd, Bwlchgwyn, Wrexham, LL11 5UU

Drawing No. 27D.A001 | Revision. P01

Scale. 1:1000 | Paper Size. A3 | Date. 30.07.2025

Existing Site Location Plan



Drawing Key

- Site Boundary (1122m²)
- Ownership Boundary
- Existing Buildings
- Existing Driveway
- Existing Fence/Boundary
- Existing Garden

Existing Site Plan Key

01/ Existing property including dilapidated garage.
02/ Existing driveway access from highway.
03/ Existing driveway to property.
04/ Existing parking and turning area.
05/ Existing rear garden area.

Clwydian Planning

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Drawing No. 27D.A002 | Revision. P01

Scale. 1:500 | Paper Size. A3 | Date. 30.07.2025

Existing Site Plan

APPENDIX B:

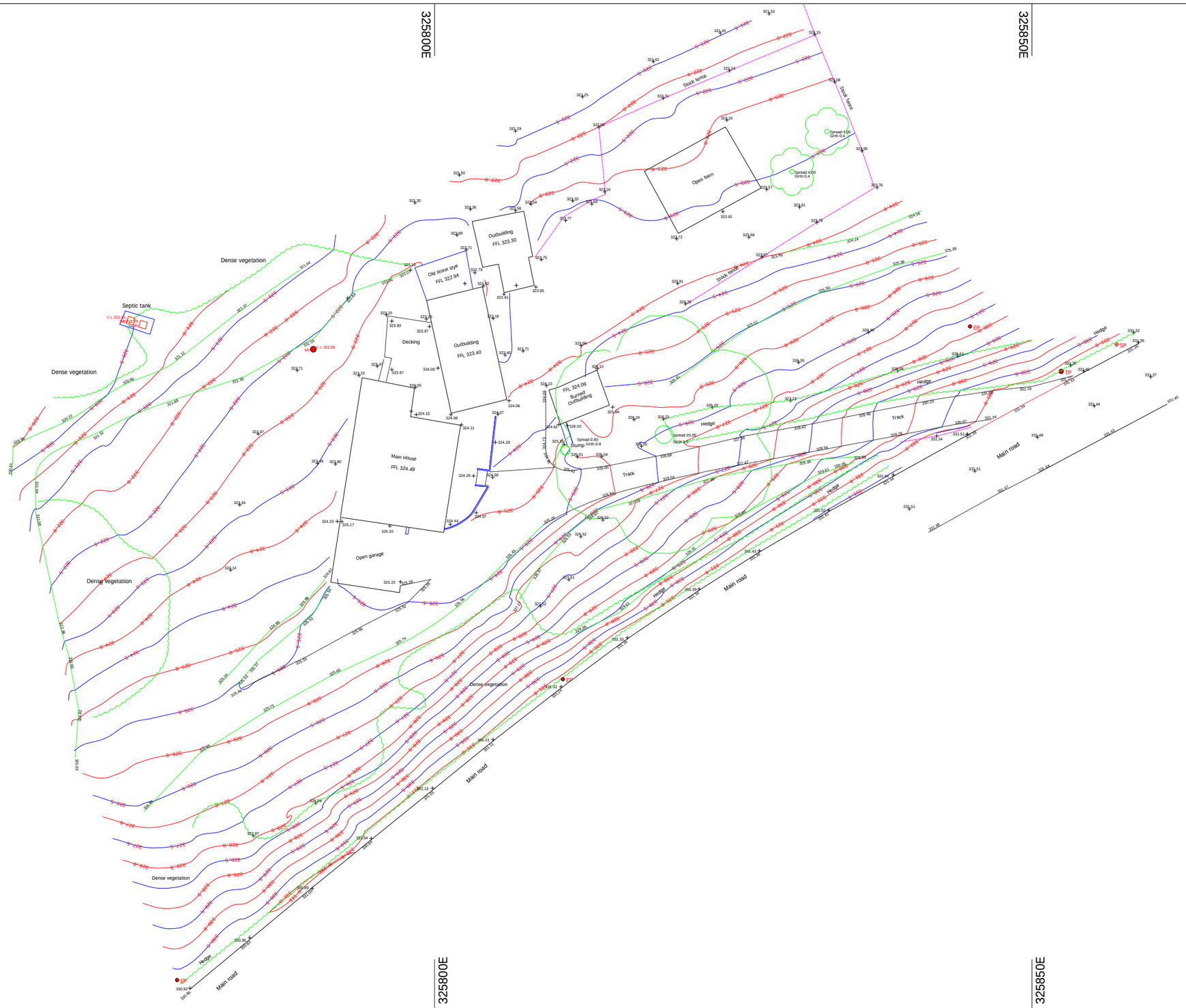
Topographical Survey

325750E

325800E

325850E

353400N



353350N

325750E

325800E

325850E

353350N

Wayne Evans Surveying Ltd
Torrington Cottage
The Square
Porthcawl
Bridgend

Mobile: 07736 740802
e mail: wayne@landsurveyorwales.com

N

	Drawing Title	Topographic Survey	Prepared by
A3 print	Drawing No 1	Client Nick Roberts	Wayne Evans Surveying Ltd www.landsurveyorwales.com
Address: Bwlchgwyn Ruthin Road		Signiture: Wayne Evans	
		24/01/2026	1:350

APPENDIX C:

Proposed Site Plans



Drawing Key

- Site Boundary (1122m²)
- Ownership Boundary
- Existing Buildings
- Existing Driveway
- Existing Fence/Boundary
- Existing Garden
- Proposed Dwelling
- Proposed Patio Area

Proposed Site Plan Key

01/ Proposed replacement dwelling.
02/ Improvements to existing driveway access from highway.
03/ Existing driveway to property widened.
04/ Existing parking and turning area increased.
05/ Existing rear garden area.
06/ Proposed patio area.

Clwydian Planning

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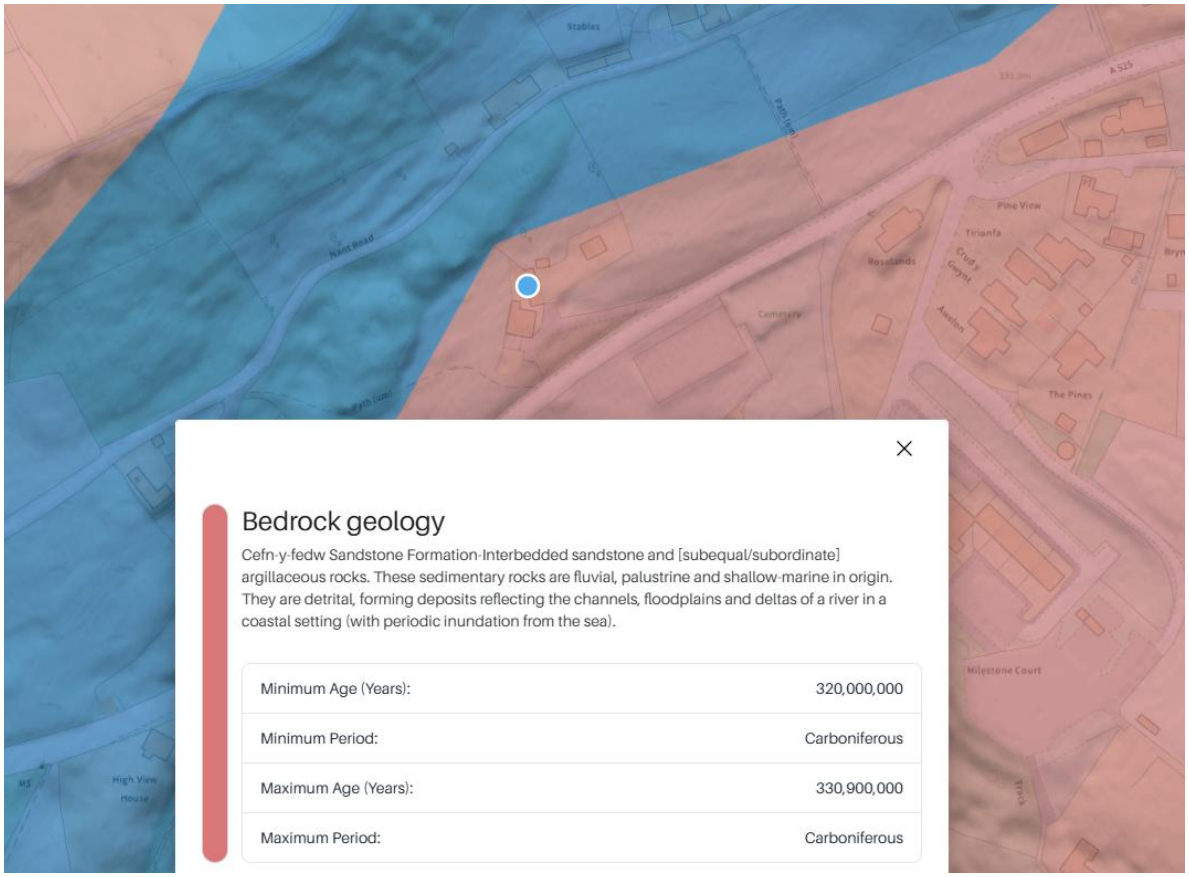
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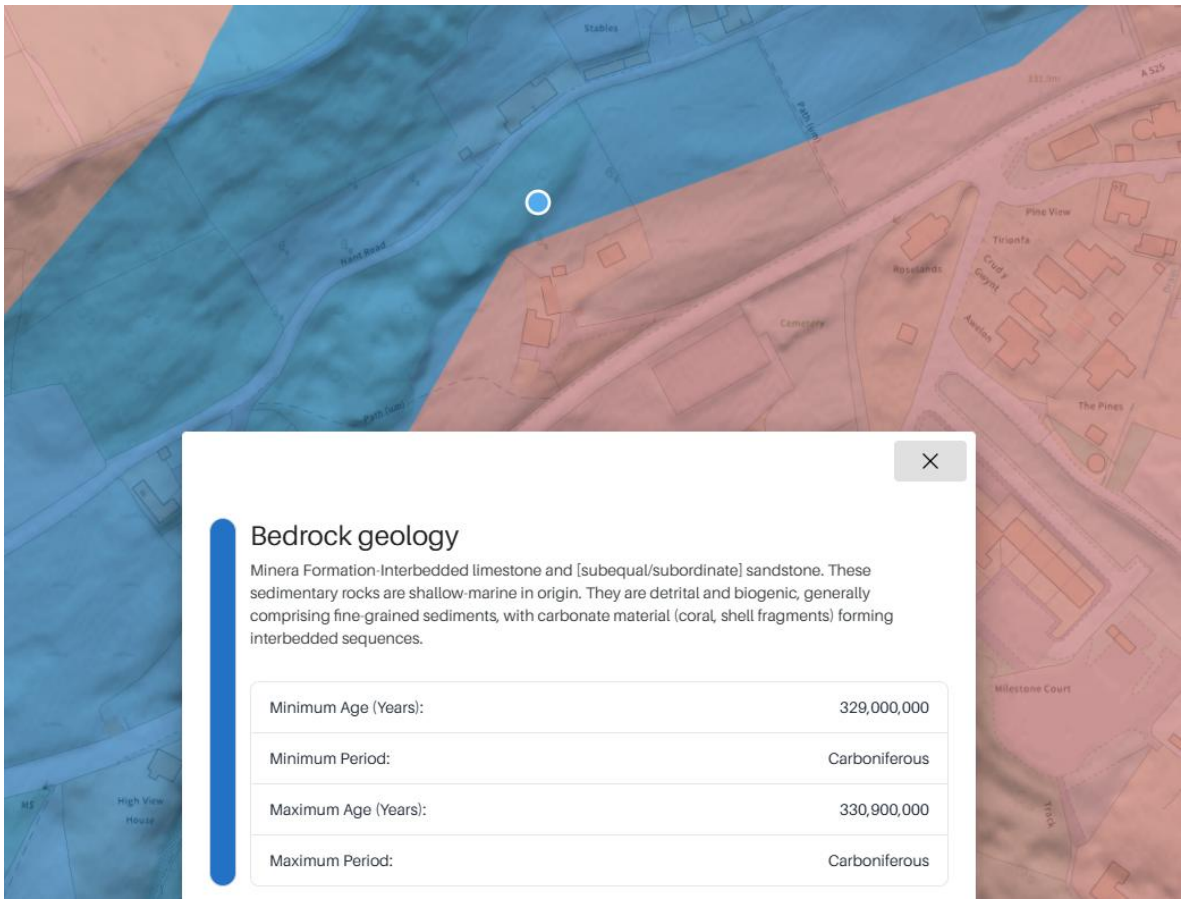
Scale. 1:500 | Paper Size. A3 | Date. 30.07.2025

Proposed Site Plan

APPENDIX D:

British Geological Survey Records


Stables
A 525
Pine View
Tirionfa
Rosslands
Cemetery
The Pines
Milestone Court
High View House
Bedrock geology
Cefn-y-fedw Sandstone Formation-Interbedded sandstone and [subequal/subordinate] argillaceous rocks. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).
Minimum Age (Years): 320,000,000
Minimum Period: Carboniferous
Maximum Age (Years): 330,900,000
Maximum Period: Carboniferous


Stables
A 525
Pine View
Tirionfa
Rosslands
Cemetery
The Pines
Milestone Court
High View House
Bedrock geology
Minera Formation-Interbedded limestone and [subequal/subordinate] sandstone. These sedimentary rocks are shallow-marine in origin. They are detrital and biogenic, generally comprising fine-grained sediments, with carbonate material (coral, shell fragments) forming interbedded sequences.
Minimum Age (Years): 329,000,000
Minimum Period: Carboniferous
Maximum Age (Years): 330,900,000
Maximum Period: Carboniferous

APPENDIX E:

Flood Risk Mapping

Cyfoeth Naturiol Cymru
Natural Resources Wales

Flood Risk Maps

Enter title (max 35 characters)

Legend

Flood Defence Locations

Areas Benefitting from Flood Defences

- Rivers
- Sea
- Rivers and Sea

Flood Risk from Rivers

- High
- Medium
- Low

Flood Risk from the Sea

- High
- Medium
- Low

Flood Risk from Surface Water & Small Watercourses

- High
- Medium
- Low

- Risk Level Under Review
- Recorded Flood Extents
- Flood Storage Areas
- Flood Risk from Reservoirs

Scale at A3: 1:5,000

Date: 27/02/2026

N

0.2 0.1 0 0.2

km

British National Grid

Disclaimer

https://naturalresources.wales/flooding/disclaimer-for-our-flood-and-coastal-erosion-risk-maps/?lang=en

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APPENDIX F:

Klargester BioDisc Specification

Water Management Solutions

7 YEAR WARRANTY

Klargester

BioDisc® BA-BC Domestic Sewage Treatment Plant Range



klargester.co.uk

Klargester BioDisc®
Domestic Sewage Treatment Plant

Support from start to finish from our in-house team

Step 1
Free survey
Contact us and we'll arrange for a local Klargester Area Sales Manager to visit your home for a full site assessment, should you need it.

Step 2
Choice
Our professional team will work with you to help choose the correct BioDisc model.

Step 3
Set up
We offer full commissioning and activation for your BioDisc, ensuring it runs optimally right from the start.

Step 4
Service
We offer tailored service and maintenance packages for your BioDisc treatment plant.



* Dimensions illustrated here are applicable to the BA and BB models only.

Choosing the right sewage treatment plant for your home with Klargester

Klargester provides relevant advice and support throughout the wastewater treatment purchasing process based on our in-depth local knowledge and expertise. We offer comprehensive free site visits, professional installation options (optional extra) and aftersales care through our national network of accredited installers and engineers.

BioDisc is Third Party Tested to EN 12566-3 (GB & NI) and SR66:2025* (IE)

I'm a homeowner - what do I need to consider before choosing my treatment plant?

The Klargester BioDisc sewage treatment system is available to suit all types of domestic applications, catering for single and multi-house properties. BioDisc is engineered to treat wastewater to a very high standard and offers affordable lifetime costs compared to other treatment processes.

Our team will guide you through:
- Size of treatment plant required
- Ground conditions around the plant
- Wastewater discharge options
- Invert level options

Why BioDisc®?

With strict Environment Agency standards, it's more important than ever to choose a sewage treatment plant that delivers peace of mind with reliable treatment of wastewater.

The Klargester BioDisc is built on the back of 70 years' experience and offers the following benefits:

7 YEAR WARRANTY**

Product benefits

- Affordable lifetime running costs
- Trusted and reliable performance
- Odour free
- Silent Operation

BioDisc is one of the few systems in the UK which doesn't make use of an air pump (used in an 'aerated' system) which means minimal odour being released. This is verified by an independent odour sampling report (available on request).

At a recent site, our team concluded that the domestic BioDisc has the same level of noise as the average ambient background noise outside (between 40-55 decibels).*

40-55 DECIBELS

Domestic BioDisc
Decibel equivalent to a modern refrigerator

75-80 DECIBELS

Typical aerated system
Decibel equivalent to a coffee grinder machine

* This is a representative figure based on a Large BioDisc plant.

Register your guarantee online at **kingspan.co.uk/klargesterguarantee** to arrange your service and enjoy an extended seven year guarantee period.**
** For BA and BB BioDisc models only, when registered online - terms and conditions apply.
Visit: kingspan.com/gb/en-gb/products/wastewater-management/warranty-terms

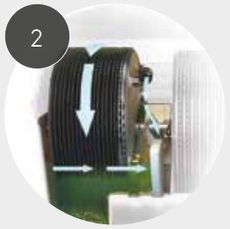
*BA and BC models only in IE

How it works



Primary settlement tank

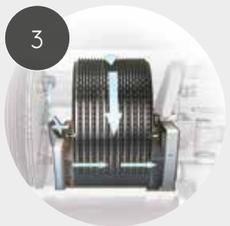
Wastewater and sewage flows into the primary settlement tank where the large solids are retained for future removal.



First stage biological treatment

The liquor and fine solids then flow into the Biological Treatment Zone 1 where the first stage of treatment occurs.





Second stage biological treatment

The liquor is then fed forward at a controlled rate into Biological Treatment Zone 2 for further treatment.



Final settlement tank

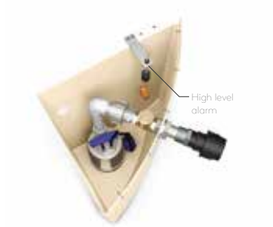
The clean liquid passes into the final settlement tank where it can be discharged to ground or water course.



Control panel and beacon featuring alarm* and digital display to signal that your system is working optimally (beacon and alarm optional extras).

SmartServ Pro

Ask us about our SmartServ Pro remote monitoring solution (optional extra). With early fault detection, SmartServ Pro lets you know when your system needs serviced, giving you peace of mind. Find out more at helpingyou@kingspan.com



Integrated Pump System also available (for pumped systems only). Our technical team will guide you through the best options for your site.

Book your free site visit from our in-house Klargester team at klargester@kingspan.com or visit **klargester.co.uk**

Silent operation

Odour Free

Trusted and reliable performance

Technical Specification

Unit Reference	BA	BAx	BB	BC
Population Equivalent (Std Flow)	6	9	12	18
Maximum Daily BOD (kg)	0.36	0.54	0.72	1.08
Maximum Daily Flow (m3)	1.2	1.8	2.4	3.6
Ø/Width (mm)	1995	1996	1995	2450
Length (mm)	-	-	-	-
Inlet Invert depth (mm)	450/750/1250	450/750/1251	450/750/1250	600/1100
Depth Below Inlet Invert (mm)	1400	1400	1400	1820
Outlet Invert Depth (mm)	1315	1315	1315	1735
Overall Height (mm)	2160/2460/2960	2160/2460/2960	2160/2460/2960	2825/3325
Height to Rim of Cover (mm)	1945/2245/2745	1945/2245/2745	1945/2245/2745	2485/2985
Empty Weight (kg)	310/325/380	310/325/380	335/350/405	650/750
Standard Power Supply	1 phase	1 phase	1 phase	1 phase
Motor Rating - 1 Phase (Watts)	50	50	50	75
Full Load Current 1 Phase (amps)	0.51	0.51	0.51	1,1
Optional Power Supply	3 phase	3 phase	3 phase	3 phase
Motor Rating - 3 Phase (Watts)	N/A	N/A	N/A	90
Full Load Current 3 Phase (amps)	N/A	N/A	N/A	0.38
Sludge Return Pump Rating (watts)	250	250	250	250

Invert level options
Three standard drain invert level options are available from stock to match the site topography and where applicable, minimise the excavation depth. The BA, BB and BA-X models are available with an integral pump to move the effluent from the point of treatment, if site level demands.

Environment Agency regulations

As an off-mains homeowner, you must comply with the General Binding Rules by ensuring your treatment system is maintained properly and does not cause pollution. These rules state that you must arrange regular maintenance for your system, via a trusted service provider. Kingspan Service can help with servicing and alarm packages – email helpingyou@kingspan.

Protect your investment with our Service and Maintenance Plans

We recommend that you service your BioDisc sewage treatment plant **once a year**. Under Environment Agency regulations, it's now your responsibility to ensure smooth running of your plant.

Our in-house Service department offer a range of service packages including Gold, Silver and Bronze to cater for all homeowners' needs.

To find out more about how you could benefit from a tailored service package from Kingspan, call us on **+44 (0)28 3026 6799 (NI) or 0818 544 500 (ROI)** or email **helpingyou@kingspan.com**

For further technical information & videos on the BioDisc treatment plant visit our website at **klargester.co.uk**

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04/2025_v6_5010.01_gb

APPENDIX G:

Percolation Testing Results

Vale Consultancy

CONSULTING CIVIL & STRUCTURAL ENGINEERS

SOAKAWAY REPORT

Demolition of Existing Dwelling and Erection of Replacement Dwelling
Tanyffordd,
Ruthin Road,
Bwlchgwyn,
Wrexham
LL11 5UU

Prepared for: Clwydian Planning
Project Ref: 23589_Soakage Report

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Client:	Clwydian Planning
Vale Consultancy Ref:	23589_Soakage Report

Issue	Prepared by	Approved by	Date	Status
01	Ellie Lebbon *BSc (Hons), MSc* Assistant Environmental Engineer	Jack Price *BSc (Hons)* Principal Civil Engineer	13.03.26	First issue

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1.1 Brief 3
1.2 Site Investigations 3
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2.1 British Geological Records 4
2.2 Method of testing 4
2.3 Trial pit conditions 4
2.4 Test results 4
3 CONCLUSIONS 5
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1 INTRODUCTION

1.1 Brief

Vale Consultancy has been instructed by Clwydian Planning (the Client) to provide a soil infiltration test report to the BS6297 Standards for test that were undertaken at the site at Tanyffordd, Ruthin Road, Bwlchgwyn, Wrexham, LL11 5UU.



Figure 1 – Site Location Satellite Image

The purpose of the infiltration testing is to determine the local geology and permeation rates of the underlying ground to establish the suitability of draining wastewater via a foul drainage field. One test pit was excavated to 700mm x 700mm x 500mm deep. An additional area was excavated within this same hole to 300mm x 300mm x 300mm and filled with water.

1.2 Site Investigations

The proposed development is located at the end of a private driveway adjacent to the A525 (Ruthin Road). The proposed development is located approximately 745m west from the centre of Bwlchgwyn and approximately 8.4km northwest from the centre of Wrexham.

The client undertook the soakage testing on 21st/22nd February 2026 to BS6297 standards.

2 SITE FINDINGS

2.1 British Geological Records

A desktop search of the British Geological Survey (BGS) online records shows the site to have the following superficial soils and bedrock:

Superficial deposits: Not indicated to be underlain by superficial deposits.

Bedrock geology: The proposed new dwelling is indicated to be underlain by Cefn-y-fedw Sandstone Formation-Interbedded sandstone and [subequal/subordinate] argillaceous rocks. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).

The northern area of the site is indicated to be underlain by bedrock of Minera Formation-Interbedded limestone and [subequal/subordinate] sandstone. These sedimentary rocks are shallow-marine in origin. They are detrital and biogenic, generally comprising fine-grained sediments, with carbonate material (coral, shell fragments forming interbedded sequences.

Soilscapes describes the site as '*freely draining slightly acid loamy soils'.*

This coincides with site findings.

2.2 Method of testing

The trial pits were dug by the client the day before infiltration testing was undertaken. The hole was filled with water and the client measured 75% (225mm) and 25% (75mm) onto a pipe and kept the pipe in the hole. It was timed how long it took the water level to drop to the aforementioned water levels on the pipe.

This process was repeated three times.

2.3 Trial pit conditions

One trial pit was excavated on site; the location can be found in **Appendix A**.

The dimensions of the trial pit were as follows.

Trial Pit 1: W 700mm, L 700mm, D 500mm.
Secondary hole within Trial Pit 1: W 300mm, L 300mm, D 300mm.

Ground water was not encountered between the time the test pits were dug and the subsequent filling.

2.4 Test results

Tests were performed three times in the trial pit as stipulated by BS6297 standards. The test pits drained successfully in a sufficient period of time and the results can be seen in the table below.

Test Hole	*Test No.*	*Elapsed Time 75%-25%*	*Worst Vp (s/mm)*
1	*1*	*2024*	
1	*2*	*6070*	
1	*3*	*7210*	
1	-	-	*34*

The calculations for the sizing of the drainage field, as per Building Regulations 2010 (Drainage and waste disposal) are demonstrated below:

$$A_t = p \times V_p \times 0.20$$

$$A_t = 7 \times 34 \times 0.20 = 47.60m^2$$

The minimum size that a foul drainage field would need to be is 47.60m^2.

3 CONCLUSIONS

The three tests performed within the trial pit allowed an infiltration rate of:

Trial pit 1: **34.00s/mm**

It is recommended that the foul drainage field is located close to the location of the trial pit.

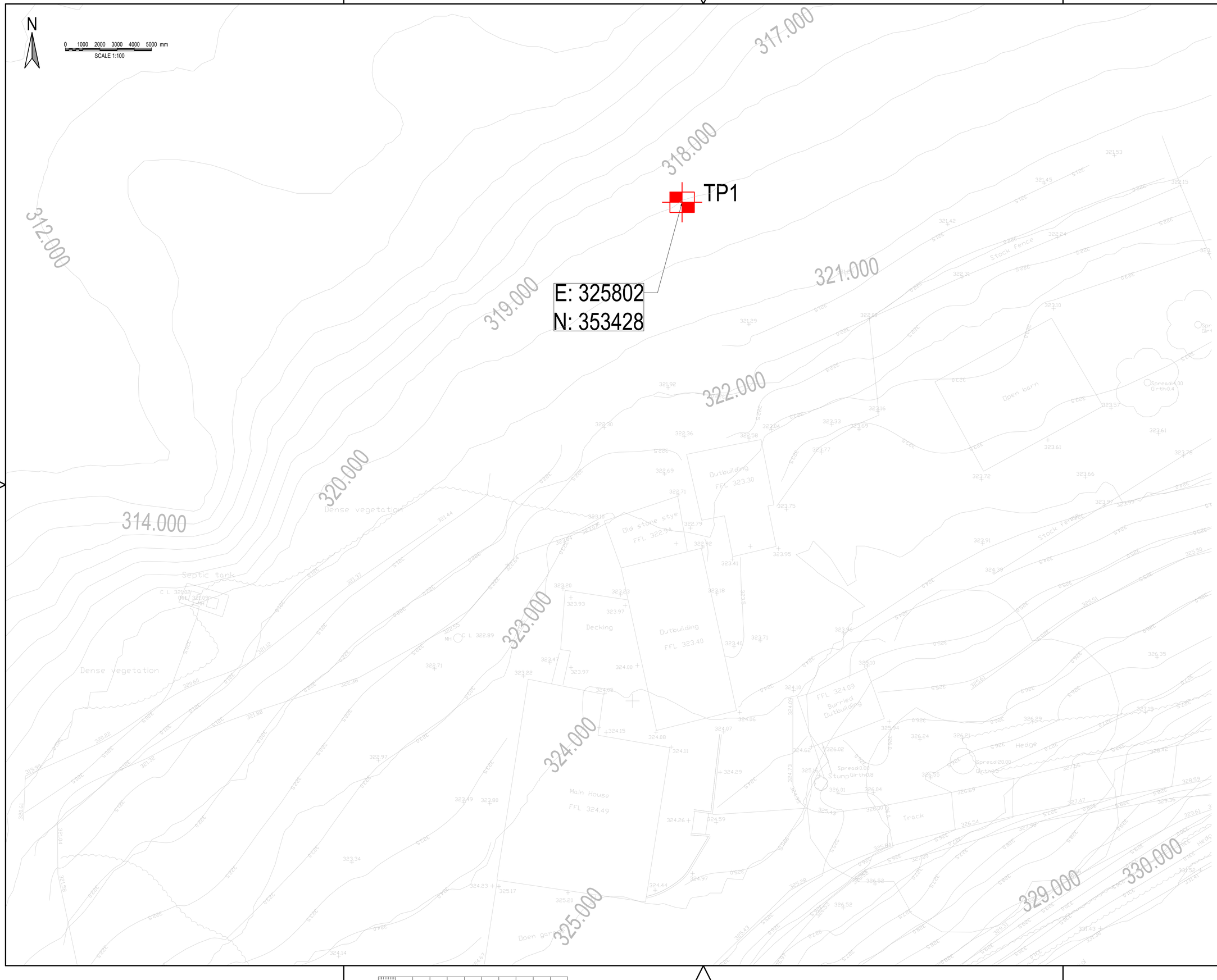
Appendix A:

Site Test Location Plan

Sheet ACAD - A1 rev. C

N

0 1000 2000 3000 4000 5000 mm
SCALE 1:100



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. ALL LEVELS ARE SHOWN IN METRES UNLESS NOTED OTHERWISE.
3. DO NOT SCALE FROM THE DRAWING. USE FIGURED DIMENSIONS ONLY.
4. ANY DISCREPANCIES TO BE REPORTED IMMEDIATELY TO THE ENGINEER.
5. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SUBCONTRACTORS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
6. EXISTING SERVICES HAVE NOT BEEN SHOWN BUT ARE PRESENT - THE CONTRACTOR IS TO LIAISE WITH ALL STATUTORY AUTHORITIES PRIOR TO THE COMMENCEMENT OF ANY WORKS.

LEGEND

BS6297 - FOUL

PRELIMINARY

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01	EL	JP	JP	13.03.26	

Client
CLWYDIAN PLANNING

Project
TANYFFORDD, BWLYCHGWYN

Title
SOAKAGE TESTING PLAN

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date	drawn	checked		approved	
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1:100	23589

status	drg. no.	rev.
P	23589_100	01

DRAWING STATUS
A - Approval, AB - As-Built, C - Construction, D - Draft, P - Preliminary, T - Tender

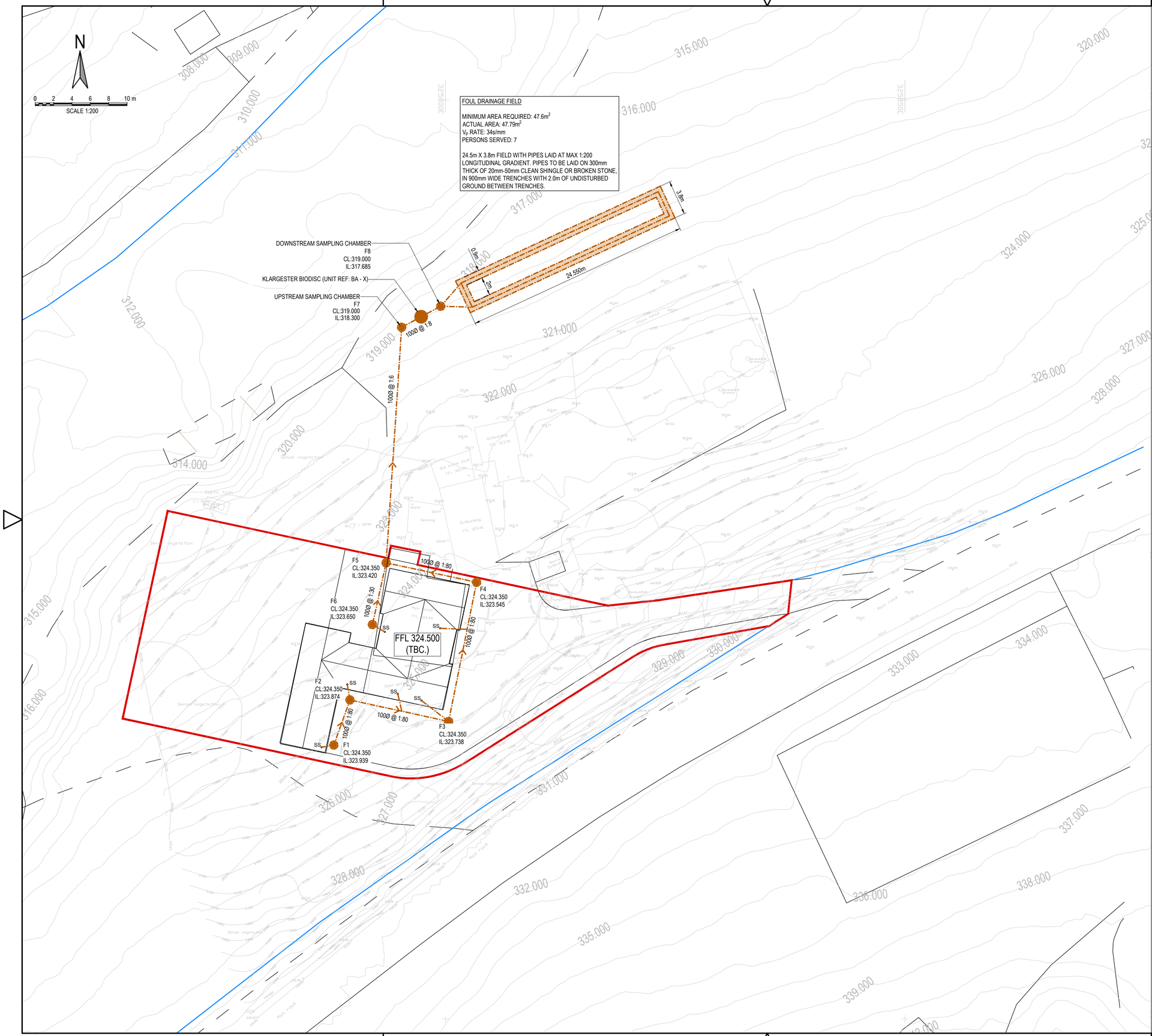
ORIGINAL DRAWING SIZE 841 x 594

10 0 10 20 50 100mm NATURAL SCALE

A1

APPENDIX H:

Foul Drainage Strategy



DRAINAGE LEGEND

- PROPOSED FOUL WATER DRAINAGE
- PROPOSED FOUL DRAINAGE FIELD
- SS• PROPOSED FOUL DRAINAGE POINT. EXACT NUMBER & LOCATION TBC. BY ARCHITECT

ALL LEVELS SHOWN ARE SUBJECT TO DETAILED DESIGN

GENERAL DRAINAGE NOTES:

1. MH COVERS AND FRAMES TO CONFORM TO BS EN 124:
   -HIGHWAYS AND FOOTWAYS TO FRONT OF BUILDINGS (D400)
   -FOOTWAYS TO REAR OF BUILDINGS (C250)
2. ALL EXISTING MANHOLE INVERTS TO BE CHECKED AND REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF DRAINAGE WORKS. EXISTING PIPE CONNECTIONS ARE TO BE CCTV SURVEYED AND INSPECTED BY THE ENGINEER AND LOCAL AUTHORITY. IF THE PIPE CONNECTION IS FOUND TO BE DAMAGED OR IN DISTRESS, THE CONTRACTOR IS TO CARRY OUT REMEDIAL WORKS OR PROVIDE A NEW CONNECTION TO THE EXISTING SEWER (PIPE SIZE AND GRADIENT TO BE DETERMINED BY THE ENGINEER.
3. THE GRADIENTS INDICATED AGAINST THE DRAIN RUNS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL INSTALL DRAINS TO THE INVERT LEVELS SHOWN FOR EACH MANHOLE OR OTHER INDICATED POSITION.
4. ALL PLOT FOUL DRAINAGE TO BE MINIMUM 100mm DIAMETER UNLESS OTHERWISE NOTED.
5. ALL JOINTING IN ACCORDANCE WITH MANUFACTURERS TECHNICAL ADVICE & SPECIFICATION.
6. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS DRAWINGS, TOGETHER WITH THEIR LATEST SPECIFICATIONS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER (VALE CONSULTANCY) AS SOON AS POSSIBLE.
7. PRIOR TO ORDERING ANY MATERIALS THE CONTRACTOR IS TO CONFIRM MANUFACTURER/PIPE MATERIAL AND GRADE PROPOSED WITH WATER AUTHORITY.
8. DESIGN RISK ASSESSMENTS AND METHOD STATEMENTS ARE TO BE PROVIDED TO THE PRINCIPLE CONTRACTOR PRIOR TO THE COMMENCEMENT OF ANY WORKS.
9. LEVELS SHOWN HAVE BEEN TAKEN FROM LIDAR DATA AND WILL NEED TO BE CONFIRMED PRIOR TO CONSTRUCTION BY THE ARCHITECT.

ANY WORKS COMMENCING ON SITE PRIOR TO PLANNING, HIGHWAY & DRAINAGE APPROVALS BEING GRANTED IS UNDERTAKEN IS AT THE DEVELOPER'S OWN RISK.

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. ALL LEVELS ARE SHOWN IN METRES UNLESS NOTED OTHERWISE.
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Project
TANYFFORDD, BWLCHGWYN

Title
FOUL DRAINAGE STRATEGY

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date	drawn	checked	approved
MAR 26	EL	RM 04.03.26	JP 13.03.26

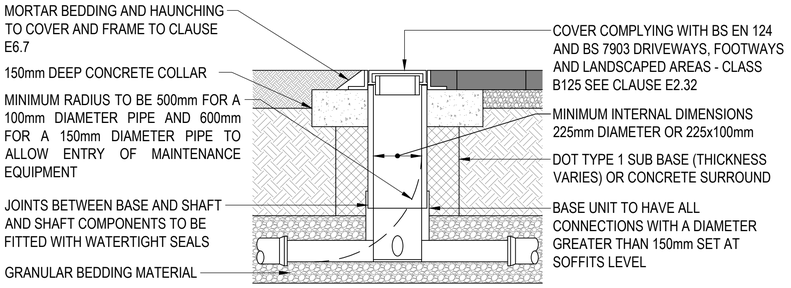
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1:200	23589

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P	23589_500	01

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A - Approval, AB - As-Built, C - Construction, D - Draft, P - Preliminary, T - Tender

APPENDIX I:

Construction Details

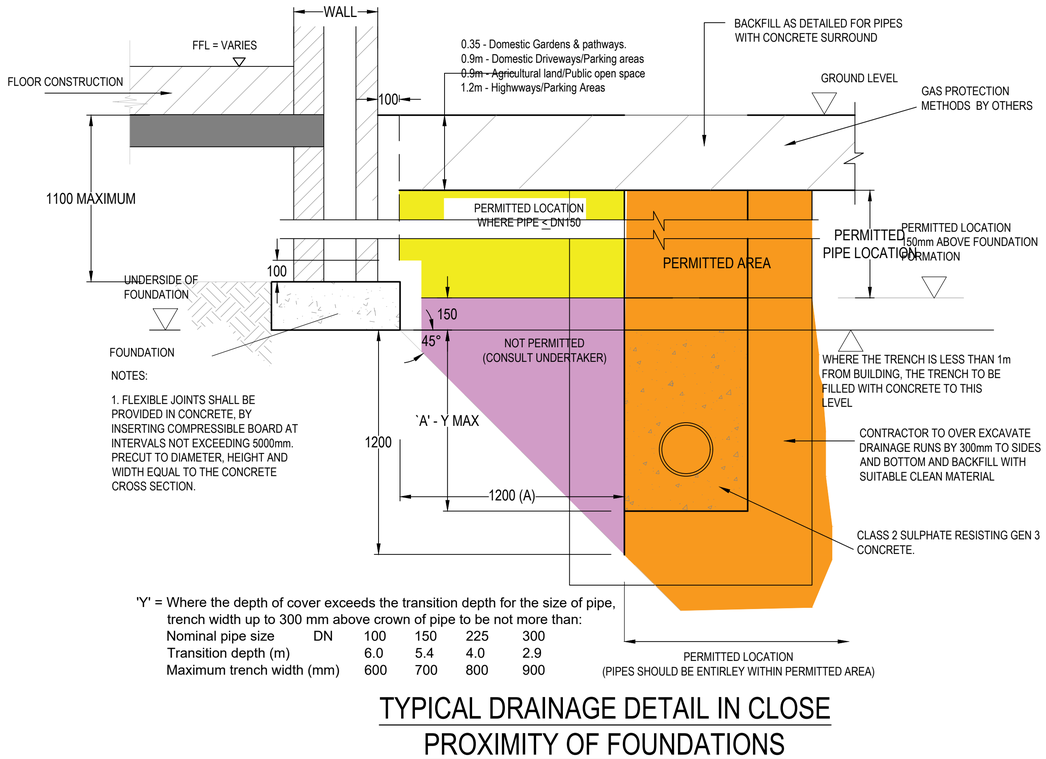


TYPICAL INSPECTION CHAMBER DETAIL - TYPE 4A WITHIN PAVED AREAS

(REFER TO FIG. B.21 OF SEWERS FOR ADOPTION 7th ED) - SITED IN DRIVEWAYS/PAVED AREAS

(FLEXIBLE MATERIAL DETAIL)

SCALE 1:20



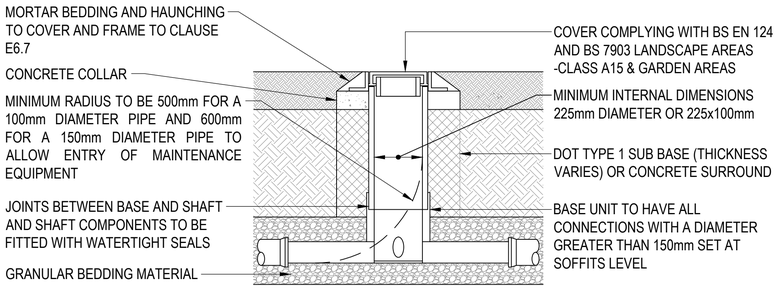
NOTES:

1. FLEXIBLE JOINTS SHALL BE PROVIDED IN CONCRETE, BY INSERTING COMPRESSIBLE BOARD AT INTERVALS NOT EXCEEDING 5000mm. PRECUT TO DIAMETER, HEIGHT AND WIDTH EQUAL TO THE CONCRETE CROSS SECTION.

'Y' = Where the depth of cover exceeds the transition depth for the size of pipe, trench width up to 300 mm above crown of pipe to be not more than:

Nominal pipe size	DN	100	150	225	300
Transition depth (m)		6.0	5.4	4.0	2.9
Maximum trench width (mm)		600	700	800	900

TYPICAL DRAINAGE DETAIL IN CLOSE PROXIMITY OF FOUNDATIONS



TYPICAL INSPECTION CHAMBER DETAIL - TYPE 4B WITHIN LANDSCAPE AREAS

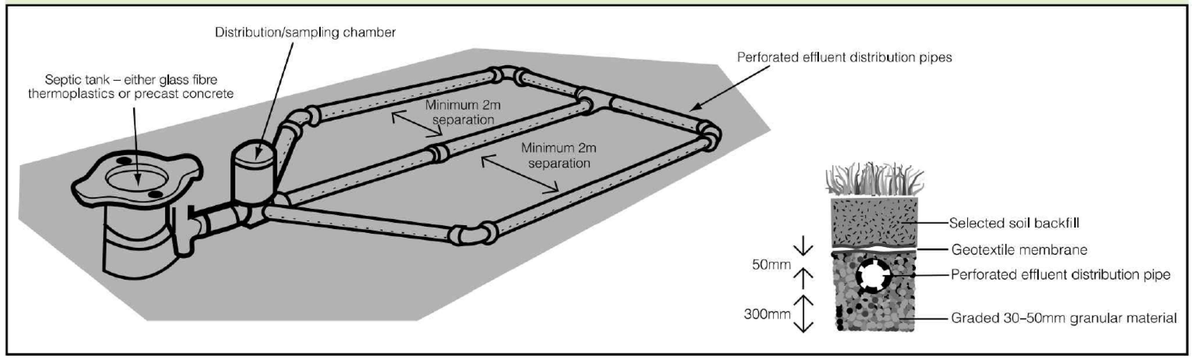
(REFER TO FIG. B.21 OF SEWERS FOR ADOPTION 7th ED) SITED IN DOMESTIC GARDENS

(FLEXIBLE MATERIAL DETAIL)

SCALE 1:20

MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 2m, NON-ENTRY PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL

Diagram 1 **Drainage field**



NOTES:

1. ALL LEVELS ARE SHOWN IN METRES UNLESS NOTED OTHERWISE.
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3. ANY DISCREPANCIES TO BE REPORTED IMMEDIATELY TO THE ENGINEER.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS, SUBCONTRACTORS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
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01	EL	RM	JP	13.03.26	FIRST ISSUE

Client
CLWYDIAN PLANNING

Project
TANYFFORDD, BWLCHGWYN

Title
FOUL DRAINAGE CONSTRUCTION DETAILS

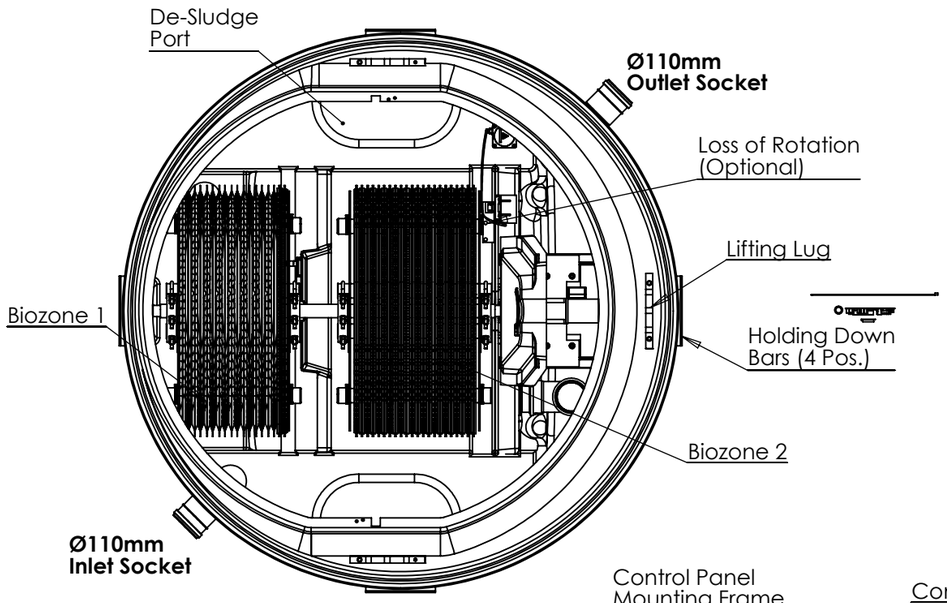
Vale Consultancy
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date	drawn	checked		approved	
MAR 26	EL	RM	04.03.26	JP	13.03.26

scale @ A1	project no.
NTS	23589

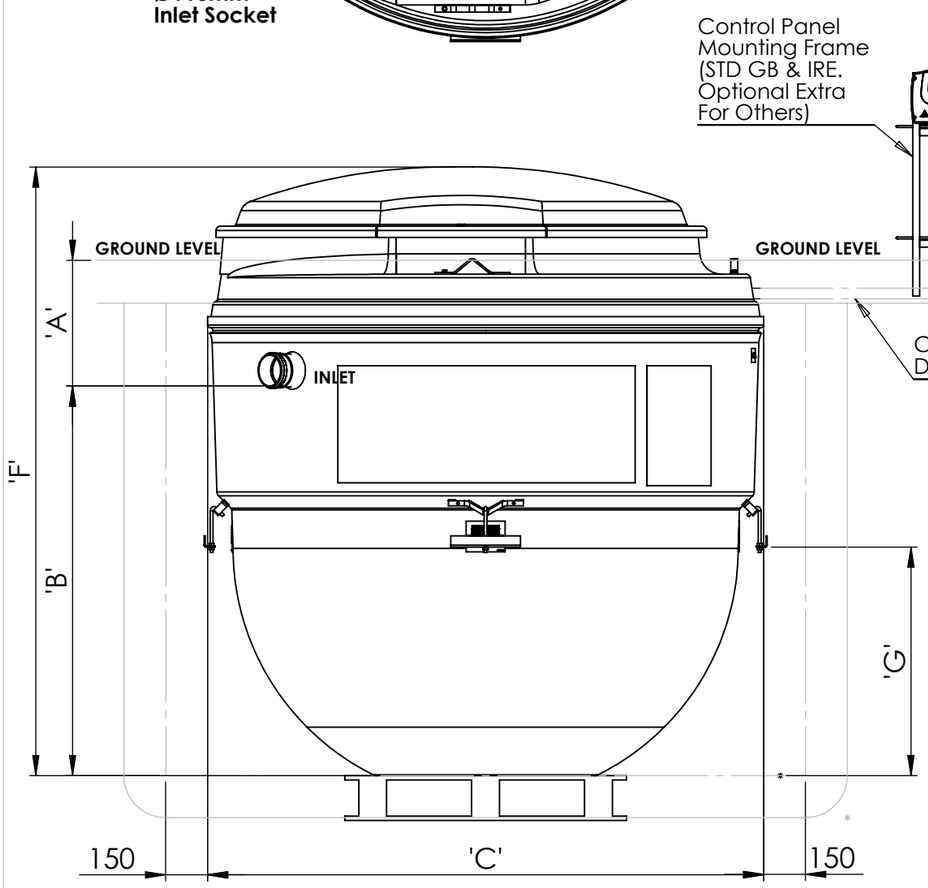
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P	23589_501	01

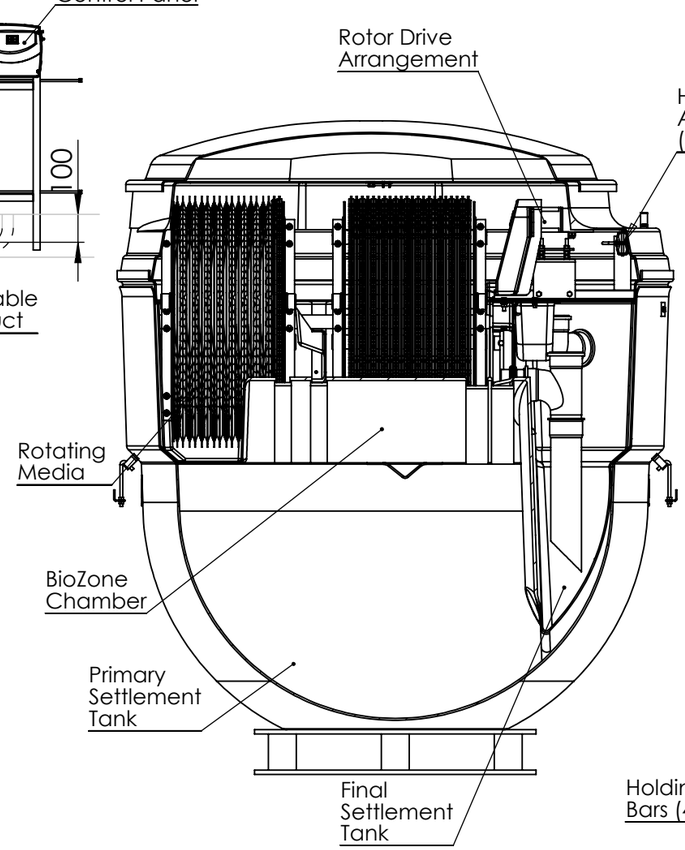
DRAWING STATUS
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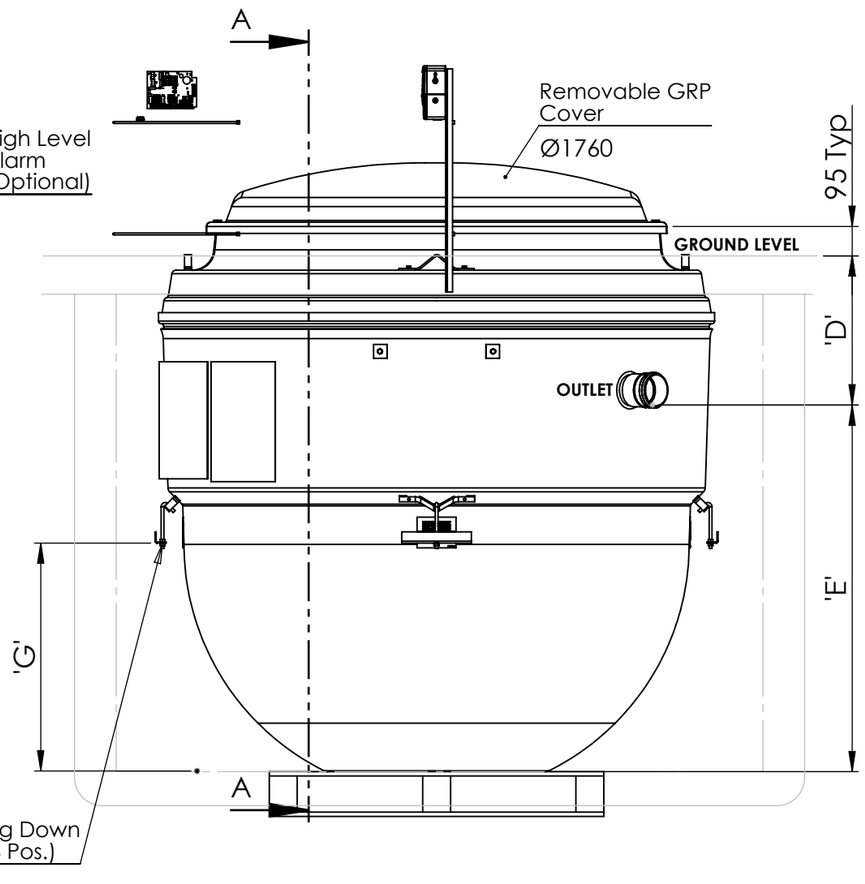


Notes:

1. This drawing is for 'Dimensional Information Only'. It is essential that this drawing is read in conjunction with the 'Installation Guidelines' supplied with the unit. (Copies available from our sales department).
2. BioDisc Tank & Cover are manufactured glass reinforced polyester (GRP). Cover is finished in Green to BS4800 Tint 18.B.25
3. For desludging procedure see Maintenance Handbook.
4. Electrical Supply - 240Volts, 2 Amps, Single Phase, Control Panel Supplied.
5. BioDisc must only be lifted by 3 lugs provided.
6. 3 no. Inlet Inverts available - 450mm , 750mm, 1250mm.
7. For Installation, Maintenance & Desludging details refer to 013103 (GL0010P) & 015098 (GL0011P).
8. Cable Duct hole diameter in case to suit conduit to be used.







SECTION A-A

Please check with Kingspan Water & Energy for the latest Issue of the drawing				
Issue	Date	Drawn By	Approved By	Description
06	19/12/2022	TGY		ECN 1641 - Access Size Added
05	30/10/2015	L.Steward		CC1241 - 1.0m Invert Option Included For Europe/ ROW

LN Number :	Tolerance (unless stated) :	**Drawing : DS1146P**
Finish :	Thickness : n/a	
Weight : 567.24 Kg	Surface Area : m²	BA BioDisc General Assembly
Modelled By : Name	Material : Various	

All Dimensions In mm | Scale: Do Not Scale | Third Angle Projection

A:\Wastewater\Engineering\Drawing Data\02 - Sales Drawings\DS\DS - 11\DS1146P

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Kingspan

BA Gravity BioDisc Dimension & Weight Chart (**All Markets**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
450	1400	1995	535	1315	2160	820	310	3290
750	1400	1995	835	1315	2460	820	325	3305
1250	1400	1995	1335	1315	2960	820	380	3360

BAx & BB Gravity BioDisc Dimension & Weight Chart (**All Markets Except France**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
450	1400	1995	535	1315	2160	820	335	3315
750	1400	1995	835	1315	2460	820	350	3330
1250	1400	1995	1335	1315	2960	820	405	3385

BB Gravity BioDisc Dimension & Weight Chart (**France Only**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
450	1650	1995	535	1565	2410	1070	355	3335
750	1650	1995	835	1565	2710	1070	370	3350
1250	1650	1995	1335	1565	3210	1070	425	3405

LN Number :	Tolerance (unless stated) :
Finish :	Thickness :
Weight :	Surface Area : m²
Modelled By :	Material :

Drawing : DS1146P

BA BioDisc General Assembly

All Dimensions In mm

Scale: Do Not Scale

Third Angle Projection

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BA Gravity BioDisc 1.0m Invert Dimension & Weight Chart (**Europe & ROW Only**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
1000	1400	1995	1085	1315	2730	820	345	3325

BB Gravity BioDisc 1.0m Invert Dimension & Weight Chart (**Europe & ROW Only**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
1000	1400	1995	1085	1315	2730	820	373	3350

BB Gravity BioDisc 1.0m Invert Dimension & Weight Chart (**France Only**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
1000	1650	1995	1085	1565	2980	820	373	3350

LN Number :	Tolerance (unless stated) :
Finish :	Thickness :
Weight :	Surface Area : m²
Modelled By :	Material :

Drawing : DS1146P

BA BioDisc General Assembly

All Dimensions In mm

Scale: Do Not Scale

Third Angle Projection

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