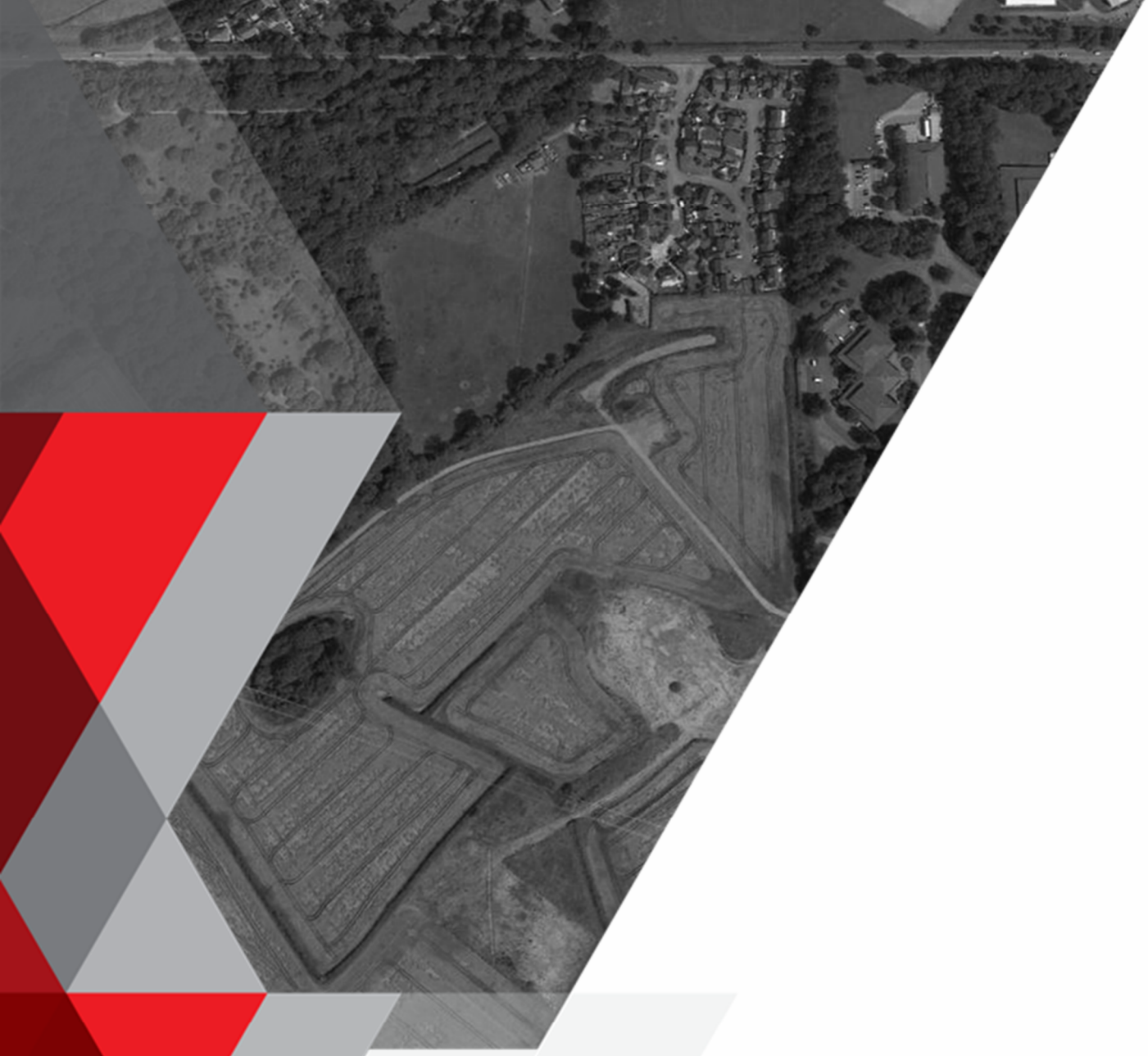

Heronsbridge School

Drainage Strategy Report

Client: Kier Construction

Project Ref: HER (CC2856)

Status: S3 – Issued for Review & Comment

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Report Control Sheet

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1 Introduction

1.1 Appointment and Scope

1.1.1 Cambria Consulting Ltd have been appointed by Kier, on behalf of Bridgend County Borough Council (hereafter referred to as the 'Client'), to provide Civil and Structural Engineering (CSE) design services for the proposed Heronsbridge School project (hereafter referred to as the 'Scheme').

1.1.2 The Scheme is a proposed ALN educational facility, to be constructed on greenfield land on the Island Farm development area south of Bridgend, and is intended to replace the existing Heronsbridge School.

1.1.3 The Kier design team is comprised of HLM Architects (Architecture and Landscape Design Services), Cambria Consulting Ltd (CSE Services) and McCann and Partners (MEP Services) as the main discipline leads.

1.2 Purpose of Report

1.2.1 This Drainage Strategy Report (DSR) has been produced by Cambria to summarise the drainage proposals for the Scheme. The DSR provides high-level strategies for management of surface water and foul water drainage, defining initial design considerations for the scheme. The DSR is intended to support the SAB application processes, PAC, planning application, and BREEAM accreditation for the development.

1.2.2 The purpose of this DSR is to ensure that there will be no adverse impacts to the Scheme, associated structures, plant / external areas, downstream watercourses, and adjacent properties arising from the discharge of surface water and foul water drainage. The key objectives for this DSR are to confirm the drainage design requirements for the scheme, and to ensure that the proposed drainage is compliant with latest industry standard design guidance.

1.2.3 This DSR shall provide the following:

- An overview of the existing site and baseline conditions (inc. topography, services, drainage etc.).
- Establishment of drainage design requirements / constraints.
- High-level strategies for managing increased surface water runoff from the scheme.
- Considerations for proposed SuDS features, attenuation, and flow control systems.
- Assessment of surface water quality and potential pollution control measures.
- High-level strategies for managing foul water drainage generated by the scheme.

1.3 Sources of Information

1.3.1 This DSR has been prepared based on the following sources of information:

- HLM Architectural & Landscape Proposals, August 2026 (contained within **Appendix B**).
- Hydrock Phase 1 Ground Conditions Desk Study (Report Ref. 26361-HYD-XX-XX-RP-GE-1000, P01), April 2023.
- TerraDat Geophysical Survey Report (Report Ref. 8453. Version 1), June 2023.

- Terra Firma Tier 2 Geotechnical and Geoenvironmental Report (Report Ref. 25-430-CA), March 2026.
- Cambria Flood Consequences Assessment (FCA) (Report Ref. HER-CAM-ZZ-XX-T-C-000500), August 2026.
- Alpine Land Surveyors Topographical Survey, (Project Ref: ALS/5496, Drawing Numbers: HER/01, HER/02, HER/03, HER/04)
- Azimuth Land Surveys Topographical Survey (KC4865-01) received 29/10/25.
- Azimuth Land Surveys Utilities Survey (KC4865-02 UG) received 29/10/25.
- Draintech Drainage CCTV Survey (20724-01-HERONSBRIDGE SCHOOL-CCTV Report) received 29/10/25.
- Statutory Service Records acquired via online searches (BT, DCWW, NGED, NGET, WWU etc.).

1.4 Caveats and Exclusions

Assumptions, exclusions and caveats associated with this report are as follows:

- This report assumes all referenced information, listed above and contained herein, is factual and correct at the time of production.
- At this stage, the scheme proposals have been developed in support of the PAC, planning and SAB application processes. This DSR is therefore commensurate with this level of detail and seeks to establish measures to be implemented through detailed design during RIBA Stages 4 & 5.
- Detailed design of internal and above ground drainage features (e.g., rainwater harvesting systems, guttering, rainwater down pipes, soil vent pipes, kitchen stacks, pool plant drainage etc.) are excluded from this report. These are to be confirmed by the Architect, MEP engineer and/or specialist for each respective feature.
- The Construction (Design and Management) Regulations 2015 (CDM Regulations) will apply to any future development of this site which involves construction work, as defined by CDM Regulations.
- The approach for the DSR is based on the requirements of the Welsh Government SuDS Standards (2018) and BCBC in their role as the SuDS Approval Body (SAB), at the time of writing. The findings of this DSR are based on data available at the time of the study and on subsequent assessment in relation to the development proposals.

2 Site Description

2.1 Site Location

2.1.1 The proposed site for the new Heronsbridge ALN school is situated within land west of Technology Drive, approximately 1.5km south of Bridgend City Centre. The site is located south of the A48, west of Ewenny Road (B4265), and is positioned approximately 0.85km southwest of the existing Heronsbridge School.

2.1.2 The north of the site borders the existing Island Farm housing estate, the east of the site borders a small technology industrial park. To the south and west, the site is bound by open farmland and undeveloped fields. The site is currently comprised of undeveloped agricultural land with sloping topography which falls northwards towards the existing residential area.

2.1.3 The site forms part of a wider Masterplan for an area of land known as Island Farm. The wider Island Farm development is also greenfield in nature, and its first Tier has planning approval for a community indoor Tennis Centre within land south of the proposed school.

2.1.4 The site location is as follows:

- Address: Island Farm, Bridgend
- Postcode: CF31 3LG (Nearest Postcode)
- Grid Reference: SS 90200 78300
- Grid Reference (6 digit): SS 902783
- Easting (X), Northing (Y): 290200, 178300

2.1.5 The proposed site location in the context of the Bridgend County Borough and South Wales region is shown in Figure 2-1 below:

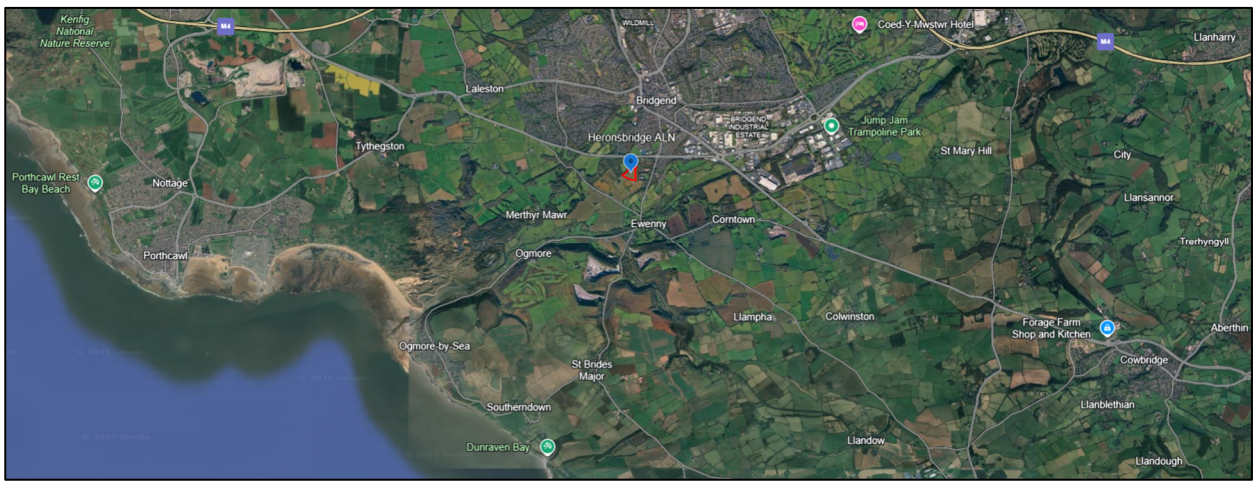


Figure 2-1 – Site Location Plan (Google Earth)

2.1.6 The site boundary for the proposed Heronsbridge development has been overlaid onto Google Earth mapping; this is displayed within Figure 2-2 below. The extents of the site boundary are currently subject to change based on the scope of the Eastern Site Access Road (this is currently beyond the scope of this DSR document).

Figure 2-2 – Site Planning Boundary (overlaid on Google Earth Mapping)

2.2 Site Topography

2.2.1 The topographical surveys undertaken for the site are as follows:

- Alpine Land Surveyors Topographical Survey, (Project Ref: ALS/5496, Drawing Numbers: HER/01, HER/02, HER/03, HER/04), April 2023.
- Azimuth Land Surveys Topographical Survey (KC4865-01) received 29/10/25.

2.2.2 Generally, the pre-development site presents a change in ground levels of approximately 8.10m across the site, with an average 1:26 crossfall from southeast to northwest. The high point of the site is in the southeast corner with an elevation of c. 31.30m AOD, the low line of the site runs along the northwestern boundary / tree line with an elevation of c. 23.50 – 24.50m AOD. There is also a low area on the northern boundary at an elevation of c. 23.60m AOD, this is situated immediately to the south of the neighbouring residential properties.

2.2.3 There are no existing buildings or structures identified within the bounds of the site.

2.2.4 The site currently comprises greenfield, agricultural land, however there are small access tracks crossing the site, as well as an existing 'mound' feature, present within the northern part of the site that is c. 0.8 – 1.1m high. It is understood that this comprises the initial pavement layers of a section of access road that formed a meaningful start to a previous Island Farm planning application which is no longer to be progressed.

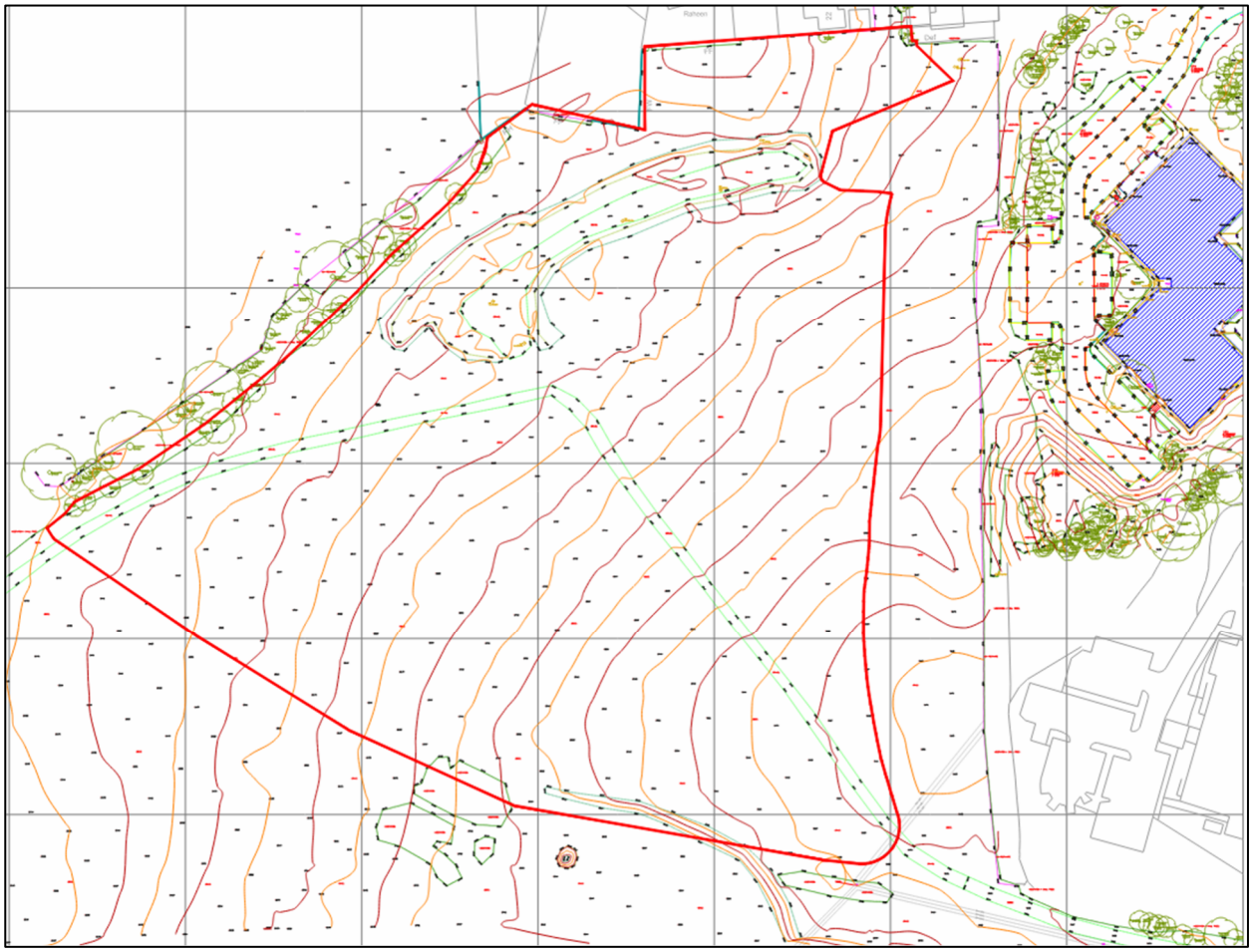


Figure 2-3 – Existing Topographical Survey with Site Planning Boundary

2.3 Ground Conditions

2.3.1 A Phase 1 Ground Conditions Desk Study was undertaken by Hydrock (Report Ref. 26361-HYD-XX-XX-RP-GE-1000, P01, April 2023) in support of the proposed school development. In addition, TerraDat have completed a Geophysical Survey Report (Report Ref. 8453. Version 1, June 2023) to identify potential limestone solution features within the underlying strata.

2.3.2 More recently, a Tier 2 Geotechnical and Geoenvironmental Report was undertaken by Terra Firma (Report Ref. 25-430-CA, March 2026). This report summarises the intrusive ground investigation surveys undertaken on site and provides confirmation of the ground conditions and geotechnical risks identified.

2.3.3 It is important to note that all design decisions based on geotechnical and geoenvironmental parameters should be verified against the detailed findings of the reports referenced above, and the advice of the Geotechnical and Geoenvironmental specialists.

2.3.4 With reference to the findings from the above-mentioned investigation reports, the key points of relevance to this DSR are summarised below.

Geology

- The site is underlain by Made Ground and superficial cohesive deposits overlying Carboniferous Limestone (Porthkerry Member). Bedrock was encountered at highly variable depths across the site, typically between approximately 4.0m and 30.5m below ground level, confirming a variable rockhead profile.
- The presence of karstic limestone bedrock has been confirmed, with evidence of solution features, voiding and irregular rockhead profiles. Localised voiding was recorded within the exploratory holes (e.g. BH02), confirming that dissolution processes are active within the bedrock.

Hydrology

- The Ewenny River lies 680m east / southeast and the Ogmore River lies 725m northwest / southwest. An isolated drain lies 185m south and an area of interconnected drains lie 530m southeast ultimately draining into the Ewenny River.

Hydrogeology

- The Terra Firma Tier 2 report considers the site to be within a sensitive setting in relation to groundwater vulnerability. The site is underlain by Jurassic Limestone with karst features which, in turn, overlie the Carboniferous Limestone Principal Aquifer.
- The River Ogmore is located approximately 725m to the west of the site. Published studies of the wider area indicate hydraulic interaction between surface watercourses and the underlying groundwater regime. Notably, a section of the river is known to discharge into subterranean karst features at the Merthyr Mawr Sink, approximately 950 m west of the site, before re-emerging further downstream (Oldham, 1984).
- The site is situated approximately 1.68 km from the Schwyll Abstraction and circa 620 m from its associated Schwyll Source Protection Zone (refer to Figure 2-4). Previous hydrogeological investigations, including tracer testing undertaken by Hobbs (1993), demonstrate groundwater connectivity between discrete locations within the wider area and the abstraction point.

- Terra Firma's Tier 2 report states that it is essential to assess the risk to the Schwyll Abstraction, to determine whether there is potential connectivity and, if so, what are the risks from any ground improvement works (e.g. compaction grouting).
- Liaison will be necessary between the Ground Improvement works designer and Welsh Water (DCWW) / Natural Resources Wales (NRW) to agree an appropriate strategy. Tracer testing from the site perimeter may be required to assess the potential hydrogeological link between the site and the Schwyll Abstraction, particularly in relation to any ground improvement works.

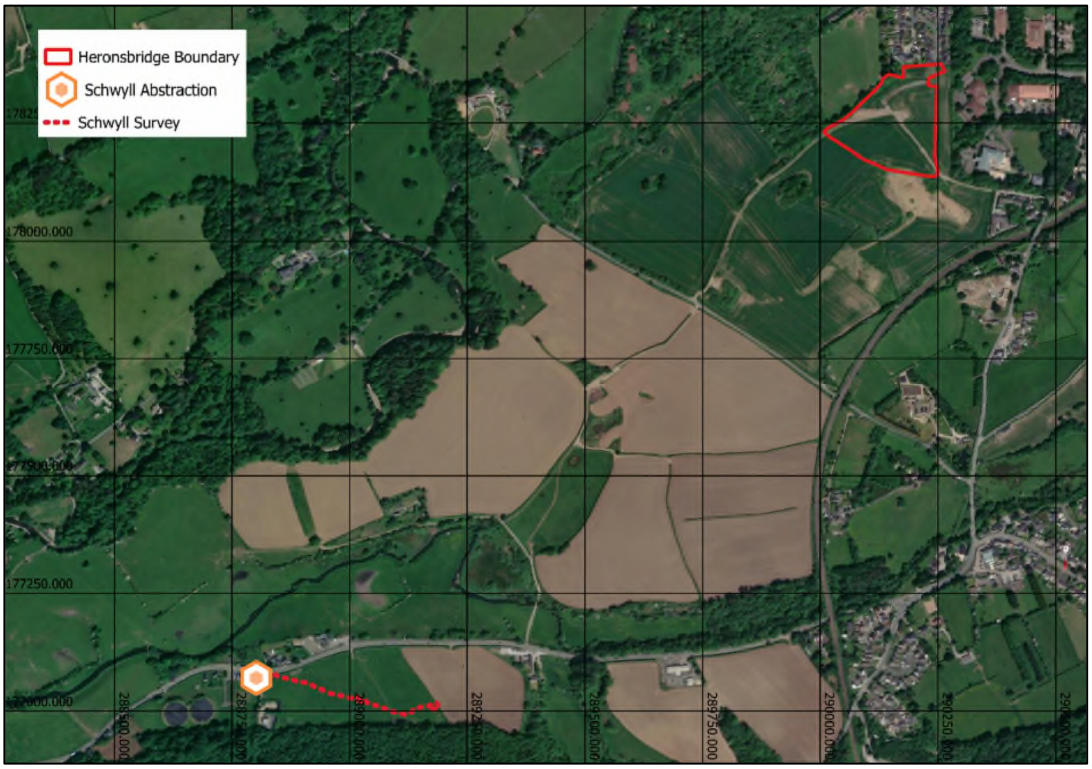


Figure 2-4 – Schwyll Abstraction and Schwyll Survey (Extract from Terra Firma Report 25-430-CA, March 2026).

Groundwater

- During the Terra Firma site investigations, groundwater was not encountered within trial pits and window sampling boreholes. During borehole drilling, groundwater was encountered in several locations. Groundwater conditions are summarised in Table 2-1 below:

Table 2-1 – Groundwater Summary

Groundwater Summary *(Extract from Terra Firma Tier 2 report (25-430-CA), March 2026*			
Location	**Depth to Groundwater**	**Location**	**Depth to Groundwater**
BH101	Damp at base (Water at 26.00m)	**BH109**	Damp at base (30.5m)
BH102	Water at 13m	**BH110**	Damp at base (25.00m)
BH103	Water at 24m	**BH111**	Water at 21m
BH104	Water at 14.2m	**BH112**	Water at 21m
BH105	Dry at completion (10.00m)	**BH113**	Dry at completion (28.00m)
BH106	Water at 22m	**BH116**	Water at 21.7m
BH107	Dry at completion (9.00m)	**BH117**	-
BH108	Dry at Completion (25.00m)	**BH118**	Water at 24m

Infiltration / Soakaways

- As part of the Terra Firma ground investigation works, soakaway tests were performed in a number of trial pits across the site. Site soakaway testing results are summarised in Table 2-2 below:

Table 2-2 – Soakaway Testing Summary

Soakaway Testing Summary *(Extract from Terra Firma Tier 2 report (25-430-CA), March 2026*		
Trial Pit	**Geology Description**	**Infiltration Rate (m/s)**
SA306, SA307, SA309, SA310, SA311, SA312, SA313, SA314, SA315	Superficial Deposits	Insufficient Infiltration achieved to allow calculation
SA308	Superficial Deposits	1.12 x 10^{-5} m/s achieved in one test.

- An infiltration-based drainage solution is not feasible, due to the above soakaway testing results and the presence of karst limestone solution features within bedrock. Given the risk of promoting dissolution of limestone bedrock, surface water infiltration methods are not recommended.
- Terra Firma have also advised with the Tier 2 Report that soakaways are not recommended at the site, on account of the risk that excess water poses to triggering subsidence. As such, all SuDS features and permeable surfaces are to be impermeably lined at the base to prevent infiltration to ground. Based on this requirement, the surface water and SuDS drainage design shall assume zero allowance for percolation into the ground.

Contamination

- The Terra Firma Tier 2 report suggests that soil chemical testing did not detect any determinants at concentrations in excess of the published Generic Assessment Criteria (GAC) for a residential setting with plant uptake. Therefore, in respect to Human Health, the site is considered suitable for its proposed end use without contamination remediation. Refer to the Terra Firma Tier 2 Report for further information on contamination testing undertaken on site.

2.4 Site Flood Risk

2.4.1 As small parts of the proposed site are partially located within Flood Zone 2 for Surface Water and Small Watercourses, in accordance with TAN15 clause 6.1, a Flood Consequences Assessment (FCA) has been prepared for submission as part of the planning and SAB application processes (Cambria document ref. HER-CAM-ZZ-XX-T-C-000500).

2.4.2 The NRW Flood Map for Planning (FMfP) is contained within **Appendix A**, with relevant extracts shown in Figure 2-5 and Figure 2-6.

2.4.3 The two main sources of flood risk to the site identified within the FCA report are pluvial (surface water) and existing sewer flooding. The areas of surface water flood risk are identified at the northern boundary; however, these are small/ localised, shallow in nature, and should not be worsened by the proposed development.

2.4.4 There have been anecdotal observations of existing sewer flooding within adjacent land downstream, to the northwest of site. The FCA suggests that existing sewer flood risk shall be mitigated to an acceptable level through the proposed drainage strategy, engagement with DCWW & adjacent landowners, and appropriate remediation of existing drainage systems.

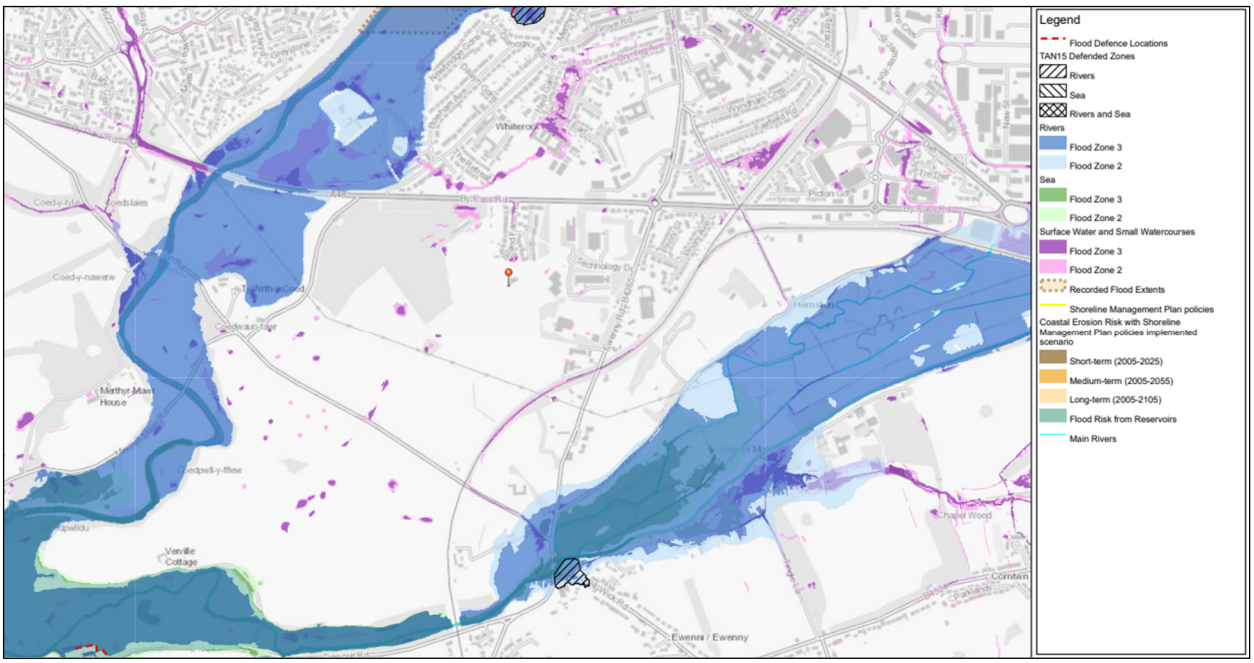


Figure 2-5 – Extract from NRW Detailed Flood Map for Planning

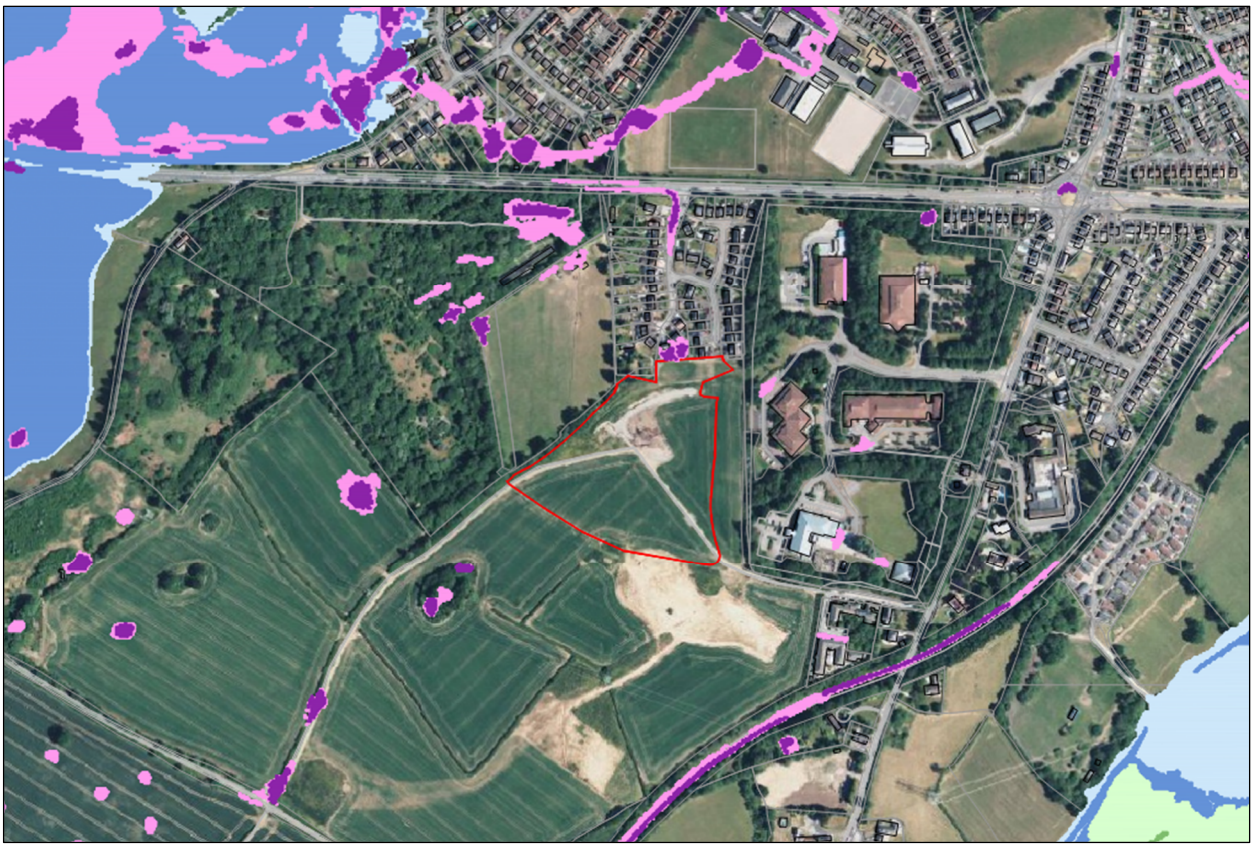


Figure 2-6 – NRW Detailed Flood Map for Planning (Zoomed in View with Site Boundary)

2.5 Existing Drainage and Services

2.5.1 The exiting utility surveys undertaken for the site are as follows:

- Statutory Service Records acquired via online searches (BT, DCWW, NGED, NGET, WWU etc.).
- Azimuth Land Surveys Utilities Survey PAS128 Level B (KC4865-02 UG), received 29/10/25.
- Draintech Drainage CCTV Survey (20724-01-HERONSBRIDGE SCHOOL-CCTV Report), received 29/10/25.

2.5.2 These have been used to inform the below section, alongside the existing topographical surveys provided by Alpine / Azimuth Land surveys. Some additional survey is required in areas to the west of the site, the results of which are expected following resolution of third-party land access and jetting of the sewers.

2.5.3 Based on the existing statutory services information, drainage CCTV, and PAS128 utility surveys (contained within **Appendix A**), the existing utilities and drainage on and around site can be summarised as follows:

- **Foul Water** – DCWW records (Figure 2-7) show a 150mm (6in) VC foul water sewer directing flows northwards, which runs parallel with the eastern site boundary. This line connects into a 225mm VC foul sewer to the northeast of the site, and downstream of this confluence crosses the northern section of the site. The sewer then turns north as it exits the northwestern boundary of the site.*
- **Surface Water** – Based on the DCWW records (Figure 2-7), a 525mm VC surface water (SW) sewer crosses the northern section of the site, running parallel and immediately south of the DCWW foul line. Taking a similar alignment to the foul, the SW sewer then turns north as it exits the northwestern site boundary. The surface water sewer ultimately discharges to the Ogmore River at an outfall south of the A48 via a concrete sewer running parallel to the south of the A48.*
- **Public Sewerage Easements**

  The Hydrock RIBA Stage 2 report confirms the easements associated with the existing surface and foul water sewers running through the northern boundary of the site. DCWW have confirmed the following easements:

  - Foul Water: VC 225mm – SS90783401 to SS90781301 – 3m total easement (1.5m either side of the centerline)
  - Surface Water: VC 525mm – SS90783402 to SS90781302 – 6m total easement (3m either side of the centerline)

**Note: Although some invert levels are specified on DCWW records, this route requires further survey to confirm exact alignment, levels, and condition of the existing asset. Easements associated with the DCWW assets are also subject to updated utility / drainage surveys to be provided by Azimuth.*

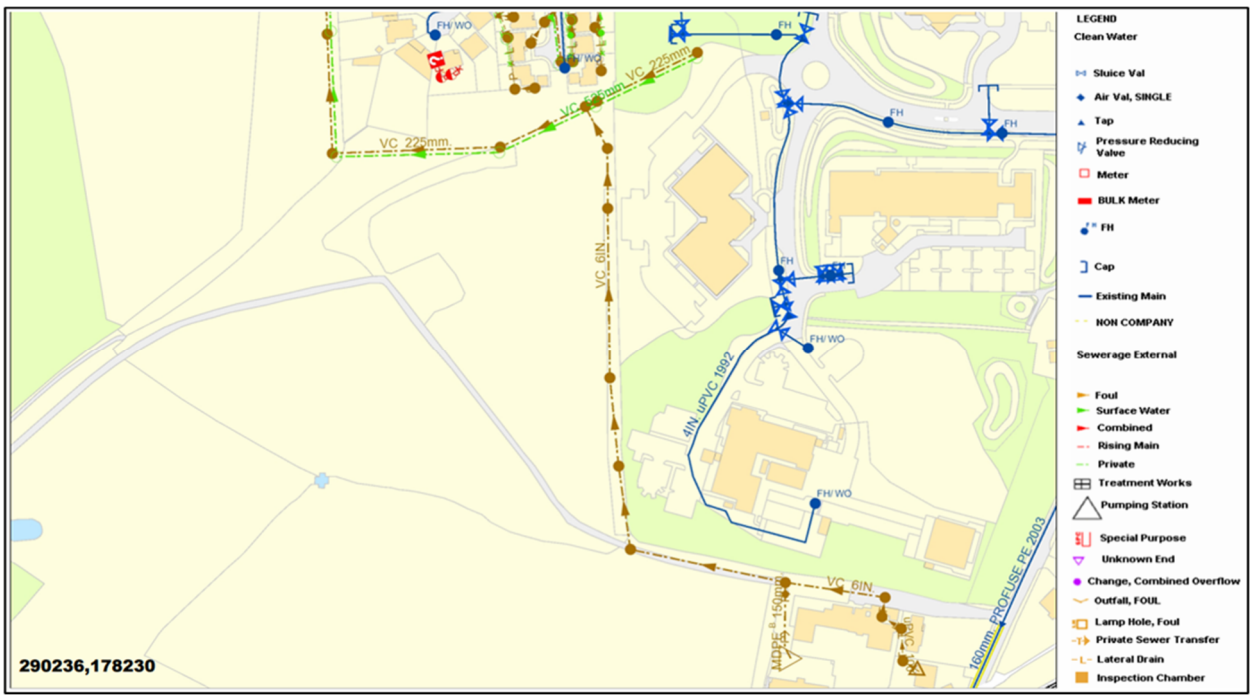


Figure 2-7 – Extract from Existing DCWW Statutory Utility Records

- **Mains Water** – There is no evidence of DCWW potable water infrastructure within the proposed site area, as indicated by DCWW records. The nearest DCWW potable water infrastructure is situated within the Island Farm residential estate to the north, and the Technology Park site to the east.
- **Gas** – There is no evidence of WWU gas mains / infrastructure within the proposed site boundary, as shown on WWU maps. The WWU records show a 63mm and 32mm PE L/P gas mains in the residential areas and technology park to the north and east of the site respectively. Several PE Medium Pressure gas mains of varying diameters (63mm – 250mm) are also shown within Technology Drive and the Roundabout to the northeast of the site.
- **Power** – The National Grid records confirm the presence of existing 11kV overhead electrical cables crossing the south-eastern corner of the site. The precise alignment of these assets has been captured within the topographical survey. Liaison with National Grid will be required to confirm protection or diversion requirements for the O/H cables (if any), as well as to establish the presence and extent of any associated easement anticipated to affect the proposed development area.
- **BT Openreach** – There is no evidence of BT infrastructure within the proposed site area as indicated by BT Openreach mapping. The nearest BT infrastructure is situated within the Island Farm residential estate to the north, and the Technology Park site to the east.

3 Development Proposals

3.1 Site Masterplan

3.1.1 The proposed scheme is located on greenfield land, forming part of the Island Farm development to the south of Bridgend. The site boundary is irregular in shape and extends over an area of approximately 3.53ha (35,300m^2). The most recent iteration of the site layout is displayed within Figure 3-1, this is an extract from the HLM Landscape Masterplan contained in **Appendix B**.

Figure 3-1 – Proposed Site Masterplan Layout (extract from HLM drawing)

3.1.2 The proposed school will provide education facilities for 300 ALN school pupils, with an allowance for approximately 240 staff. There are also 2no. residential blocks proposed within the northern area of the site. The project shall include:

- New Heronsbridge ALN School Building
- New Residential Buildings (Harwood House and School Residential)
- Hard Landscaped External Play Areas, All-Weather Pitch and Multi-use Games Area (MUGA)
- Informal Play Areas and Soft Landscaping
- Car Parking Facilities, Access Roads and Minibus Drop-off Area

3.1.3 The main school building is situated in the central and southeastern areas of the site, with the proposed residential buildings and staff car parking area to the north. To the southeast of the proposed main school building, a minibus pick-up / drop-off arrangement is proposed with ancillary structures for an electrical substation, external bin storage, air source heat pumps (ASHPs) and hydrant / sprinkler tanks.

3.1.4 In the western extent of the site, an All-Weather Pitch (AWP) and Multi-use Games Areas (MUGA) are proposed, with informal soft landscaping areas, play areas, and associated footpaths. In the northwestern corner of the site, a detention basin is proposed to provide SuDS attenuation and water quality benefits. This is anticipated to be fenced off due to the nature of the scheme and proximity of the feature to the school and residential buildings.

3.1.5 The building has been proposed as split-level structure, with the ground floor (GF) level to the east and lower ground floor (LGF) to the west. This is to account for the changes in existing ground levels across the site (which generally fall from east to west) and better align with the existing sloping topography of the site.

3.1.6 The development will be accessible via 3no. proposed junctions from a new access road running parallel to the eastern boundary of the site. This access road is proposed to link the existing Technology Drive roundabout to the Heronsbridge School site.

4 Design Guidance

4.1 Industry Standards and Codes of Practice

4.1.1 The following codes of practice, design standards and guidance documents have been implemented within the preliminary drainage design, and shall be adhered to throughout the development of the detailed design:

- BS 7533-103 (2026) – Pavements constructed with clay, concrete or natural stone paving units – Design and installation of modular permeable pavements.
- BS EN 124 (2015) – Gully tops and manhole tops for vehicular and pedestrian areas.
- BS EN 16933 (2022) – Drain and sewer systems outside buildings - design.
- BS EN 752 (2017) – Drain and sewer systems outside buildings - Sewer system management.
- CIRIA. (2015) Report C753, The SuDS Manual.
- Standards for Highways – Design Manual for Roads and Bridges (DMRB).
- Standards for Highways – Manual of Contract Documents for Highway Works (MCHW).
- Water UK. (2012) Sewers for Adoption. 7th Edition. WRc PLC.
- Welsh Government (2010) The Building Regulations – Approved Document H – Drainage and Waste Disposal.
- Welsh Government (2018) Statutory Standards for Sustainable Drainage Systems (SuDS) – designing, constructing, operating, and maintaining surface water drainage systems.

4.2 Welsh Government Statutory Standards for SuDS

4.2.1 The surface water drainage strategy to serve the Scheme has been considered in line with the Welsh Government Statutory Standards for Sustainable Drainage (2018). This document contains six standards, which detail the requirements for SuDS design and construction in Wales. The standards are as follows:

- S1 – Runoff Destination
- S2 – Hydraulic Control
- S3 – Water Quality
- S4 – Amenity
- S5 – Biodiversity
- S6 – Construction, Operation, and Maintenance

4.2.2 These form a set of principles which must be considered for appropriate and functional design and construction of SuDS features. The principles of the surface water strategy are outlined in the following section in accordance with Standards S1 – S6.

5 Proposed Surface Water Drainage Strategy

The proposed surface water drainage designed to serve the Heronsbridge School Scheme is shown on drawing **HER-CAM-ZZ-XX-D-C-000501** in **Appendix C**. The site drainage arrangement consists of multiple sustainable drainage features, including:

- Rainwater Harvesting (RWH) Systems
- Permeable Paving / Porous Surfacing
- Bio-Retention Areas (Raingardens & SuDS Tree Pits)
- Swales / Dry Swales
- Detention Basin
- Geo-cellular Attenuation System
- Filter Drains & Vegetated Strips

5.1 S1 – Surface Water Runoff Destination

5.1.1 Standard S1 provides a runoff destination hierarchy for the discharge of surface water. The runoff hierarchy has been used to determine the appropriate surface water destination for the scheme as outlined below.

Priority Level 1: Runoff is collected for use:

5.1.2 Rainwater harvesting (RWH) shall be proposed on the scheme. The proposed RWH tank is located within the soft landscaped area to the east of the school building. The RWH tank will be downstream of a dedicated surface water network which serves a percentage of the roof area, this will also assist in meeting the 5mm interception criteria.

5.1.3 The RWH tank will allow re-use of grey water for WC flushing and potentially landscape irrigation, subject to design of the RWH system by the MEP engineer and RWH specialist. All rainwater harvesting systems on the site shall be provided with emergency high level overflows and designed in accordance with BS 8515.

5.1.4 A formal below ground RWH system is considered impracticable for the Residential buildings on the site due to spatial constraints and low demand for greywater. Hence, external water butts at the base of RWPs shall be considered.

5.1.5 The demand for rainwater re-use on the site is negligible in comparison to the volume of water generated by a 1 in 100-year +CC% design storm; hence, lower priority levels will need to be considered for surface water runoff destination.

Priority Level 2: Runoff is infiltrated to ground:

5.1.6 Infiltration-based SuDS features are not feasible on this site, due to the presence of karstic solution features within the underlying limestone bedrock. The Terradat Geophysical Survey identified several isolated subsurface anomalies with characteristics consistent with possible karstic or dissolution features. Given the risk of promoting further dissolution, surface water infiltration methods are not recommended.

5.1.7 The Terra Firma Tier 2 Geoenvironmental and Geotechnical Report (ref: 25-430-04032026) also advises that soakaways are not recommended at the site, on account of the risk the excess water poses to triggering subsidence. As such, all SuDS features and permeable surfaces are to be impermeably lined at the base to prevent infiltration to ground.

5.1.8 Based on this requirement, the surface water and SuDS drainage design assumes zero allowance for infiltration into the ground. Hence, lower priority levels have been considered for surface water runoff destination.

Priority Level 3: Runoff is discharged to a surface water body:

5.1.9 Direct discharge to a surface water body is impracticable due to the distance from the site boundary and existing site levels. The nearest surface water bodies to the site are either

- Very small ordinary watercourses / land drainage ditches which are unlikely to have capacity to accept flows from the site; or,
- The Ogmore / Ewenny Rivers which are both located an infeasible distance away from site.

5.1.10 Therefore, priority level 4 has been considered below.

Priority Level 4: Runoff is discharged to a surface water sewer; highway drain or other drainage:

5.1.11 The existing DCWW surface water records show a 525mm VC surface water (SW) sewer crosses the northern section of the site; this is the proposed connection point for the scheme's surface water drainage network. A new surface water manhole will be constructed on-line of the existing DCWW surface water sewer. This connection point is subject to invert level, capacity, and relevant approvals with DCWW developer services (i.e., S106 agreement).

5.1.12 The site is greenfield in nature; therefore, the surface water drainage network is proposed to discharge at an attenuated rate to this surface water sewer, with flow restricted to the pre-development greenfield runoff rate (this is discussed further in Standard S2 below).

5.1.13 There is some outstanding drainage survey information required to confirm the exact surface water connection, due to off-site land access issues and anecdotal sewer blockages. At the time of writing, updated survey information is currently awaited. Once received, this shall be used to validate the exact location and level of the surface water drainage discharge point along the sewer.

Priority Level 5: Discharge to a Combined Sewer

5.1.14 Discharge to a combined sewer has not been considered, as a higher priority level is feasible.

5.2 S2 – Surface Water Hydraulic Control

5.2.1 As the site is greenfield in nature, surface water discharge rates will be restricted to the pre-development greenfield runoff rate (GRR). To alleviate the risk of flooding downstream of the site, a flow control chamber will be installed downstream of the proposed SuDS attenuation system. This shall restrict surface water discharge to the mean annual flood flow rate (Q-Bar) of the GRR. During early discussions with BCBC SAB Authority and DCWW, this hydraulic control strategy has been acknowledged, and is subject approval through the SAB consultation process.

5.2.2 The FEH Statistical (2025) method has been used within the HR Wallingford UK SuDS GRR estimation tool to obtain the greenfield runoff rates for the proposed development. Greenfield runoff rate (GRR) calculations have been summarised in Table 5-1 below for Q-Bar, 1 in 1-year, 1 in 30-year and 1 in 100-year return period design storm events.

Table 5-1 – Greenfield Runoff Rate Summary

Design Parameter	Value (units)	Justification / Data Source
Greenfield Area	3.53 (ha)	HLM Landscape Architecture Drawing (*HER-HLM-ZZ-ZZ-D-L-000002-PROPOSED SITE PLAN).*
SAAR9120	1206 (mm)	UK Centre for Ecology & Hydrology – FEH Web Service
BFIHOST19SCALED	0.798	UK Centre for Ecology & Hydrology – FEH Web Service
Design Return Period Storm Events	Q-Bar (2.3 years), 1, 30, and 100 years	Industry Standard Design Criteria
Q-Bar	**7.7 (L/s)***	HR Wallingford, UK SuDS Greenfield runoff rate estimation tool. Runoff estimation approach based on the FEH Statistical (2025) method.
1 in 1-year GRR	6.8 (L/s)	
1 in 30-year GRR	13.7 (L/s)	
1 in 100-year GRR	16.8 (L/s)	

**Note: Exact greenfield runoff rates are to be confirmed through consultation with DCWW and SAB.*

5.2.3 Surface water storage will be achieved through a combination of green SuDS and hard-engineered attenuation systems, including raingardens, dry-swales, permeable paving, green SuDS basins and a geo-cellular attenuation system.

5.2.4 The two main attenuation features on the site are the green SuDS basin in the northwest corner of the site and the geo-cellular attenuation tank situated under the western portion of the main School car park. The combined volume within these attenuation features shall be provide storage for the 1 in 100-year (+40% climate change allowance) return period design storm event.

5.2.5 Hydraulic calculations for the proposed drainage and SuDS have been undertaken within InfoDrainage 2026 software as part of the RIBA Stage 4 drainage design. Proposed attenuation volumes and key dimensions for the SuDS features are shown on the Surface Water Drainage GA drawing (HER-CAM-ZZ-XX-D-C-000501).

5.2.6 Due to the underlying karstic limestone geology, all SuDS features (including the basins and geo-cellular attenuation system) are proposed to be impermeably lined, to prevent uncontrolled infiltration and reduce the risk of ground instability or groundwater impacts.

5.2.7 In the unlikely event of exceedance and blockages, overflows shall be managed through an earth bund installed at the perimeter of the basin area. The earth bund shall be installed with a v-notch weir in order to direct overflows away from the existing residential properties to the north of site.

5.2.8 Interception of rainfall runoff has been maximised as far as practicable through a combination of rainwater harvesting systems, lined dry swales, lined detention basins, permeable surfaces with lined sub-bases, and lined bioretention features adjacent to hardstanding areas.

5.2.9 Interception calculations have been provided within the Water Quality & Interception technical note (HER-CAM-ZZ-XX-T-C-000503), contained within **Appendix D**. The calculations within this demonstrate that the proposed drainage strategy achieves approximately 73% compliance with the interception criteria presented in Table G2.1 of the Welsh Government SuDS Standards.

5.2.10 Although full interception is not achieved, this is considered justified due to the site's karstic limestone geology and associated subsidence risk. Infiltration-based SuDS have therefore been discounted, with all SuDS features and permeable surfaces proposed to be impermeably lined. If SuDS features on site were not required to be lined, the calculations in Appendix D demonstrate that full interception would likely be achievable.

5.2.11 Further detailed interception calculations through use of rainfall simulation models should be provided as part of the Full SAB application.

5.3 S3 – Water Quality

5.3.1 The proposed SuDS features are located around the school building, residential buildings, sports pitches, car park / drop-off areas, and other external hardstanding areas. The SuDS features are intended to capture and treat runoff at-source / close to source, reducing the risk of pollutants being conveyed directly into the downstream drainage network.

5.3.2 The proposed SuDS features which shall provide water quality benefits include:

- Rainwater Harvesting Tank
- Raingardens / Bioretention Areas
- Swales and Dry Swales
- Filter Drains and Vegetated Strips
- Permeable Paving within Car Parking Areas
- Permeable Surfaces to the MUGA, AWP, and External Classrooms / Play Areas

5.3.3 A water quality assessment has been provided within the Water Quality & Interception technical note (HER-CAM-ZZ-XX-T-C-000503), contained within **Appendix D**. This uses the Simple Index Approach (SIA) methodology set out in CIRIA SuDS Manual C753. Proposed land uses have been classified by pollution hazard level, with roof runoff considered low risk, and the school car park / drop-off areas assessed as medium risk, due to the likelihood of more than 300 vehicle movements per day.

5.3.4 The relevant pollution hazard indices for total suspended solids, metals, and hydrocarbons were compared against the mitigation indices provided by the proposed SuDS components, including bioretention raingardens, permeable paving, swales, and detention basins.

5.3.5 The drainage strategy has been designed as a series of SuDS treatment trains, ensuring that runoff from roofs, car parking, drop-off areas, access roads, and external hardstanding receives appropriate treatment before discharge from the site.

5.3.6 Roof areas are treated through measures such as rainwater harvesting, raingardens, swales, and basins, while car park and external areas are treated using combinations of permeable paving, dry swales and bioretention features to treat runoff 'at-source'.

5.3.7 The SIA outputs demonstrate that these treatment trains provide sufficient mitigation for the anticipated pollution risks, demonstrating compliance with industry standard water quality requirements. Due to the underlying karstic limestone geology, all SuDS and attenuation features are proposed to be impermeably lined to prevent uncontrolled infiltration and reduce risks to ground stability and groundwater quality.

5.3.8 Bioretention raingardens, dry swales, and all other green SuDS features shall be suitably sized to allow no overflows during the 1 in 2-year storm event, ensuring runoff percolates through the SuDS planting media and filter media (in accordance with Section G3.13 of the Welsh Government SuDS Standards).

5.4 S4 – Amenity

5.4.1 The existing Heronsbridge site comprises predominantly undeveloped greenfield agricultural land, with vegetation, informal access tracks, and field boundaries. The proposed drainage strategy incorporates above-ground SuDS features which will positively contribute to the amenity value of the new school, while also providing surface water management and treatment benefits.

5.4.2 Green SuDS infrastructure will form a visible part of the external environment, including raingardens, dry swales, and grassed basins. These features will enhance the appearance and usability of the site, support pupil and staff wellbeing, and help create a more engaging landscape.

5.4.3 Smaller SuDS features also provide opportunities for outdoor learning. Above ground planters, raingardens and shallow swales could support supervised teaching around water management, ecology, planting, climate resilience, and sustainable design. There is also potential for educational signage to be incorporated near SuDS, where appropriate.

5.4.4 Health and Safety is fundamental to the School's design, particularly around larger SuDS features. Boundary fencing, side slopes, and maintenance access have been considered through discussions with the landscape architect, contractor, and client team. Due to the ALN nature of the school, it is recommended that the basins are suitably fenced off to reduce the risk of unpermitted access. Shallower features such as raingardens and dry swales shall be risk assessed on a case-by-case basis, with fence types / heights to be detailed by the landscape architect's specification.

5.4.5 Overall, the proposed SuDS strategy will form an important part of the Scheme's external environment, providing drainage, amenity, educational, and wellbeing benefits.

5.5 S5 – Biodiversity

5.5.1 Above-ground vegetated SuDS features, including raingardens, dry swales, and basins, are integrated throughout the site. These features shall form a connected network of green infrastructure around the school, car parks, and landscaped areas, which aims to enhance ecological value and promote natural drainage processes.

5.5.2 The SuDS features will help to support habitat creation through seasonal wetting and drying cycles, encouraging a range of plant and invertebrate species. Planting within and around SuDS features will utilise native and pollinator-friendly species, to be designed by the landscape architect in accordance with best practice guidance (e.g., RHS raingarden design guide).

5.5.3 Planting within the SuDS design should look to enhance connectivity with surrounding greenfield areas and support local ecological networks across the site.

5.5.4 In addition to ecological benefits, the SuDS strategy contributes to the creation of a robust and self-sustaining landscape. The use of weather tolerant planting shall increase resilience to pollution events and climatic variation, allowing habitats to recover naturally over time. Furthermore, SuDS features appropriately located within the school environment provide opportunities for educational engagement, supporting biodiversity awareness and interaction with nature for pupils.

5.5.5 The landscape architecture proposals shall be developed with SuDS as a key element of the design, to help promote biodiversity improvements and ecological resilience within the scheme.

5.6 S6 – Construction, Operation, and Maintenance

5.6.1 The proposed drainage and SuDS strategy has been developed with consideration for constructability, long-term operation, and maintenance, whilst ensuring that the flood resilience of the development is not compromised.

5.6.2 Wherever practicable, above-ground SuDS features have been prioritised due to their accessibility and ease of inspection and maintenance. Where below-ground drainage components are required, including pipes, chambers, tanks, and attenuation systems, suitable access arrangements for future inspection and maintenance have been incorporated into the design.

5.6.3 All proposed drainage and SuDS infrastructure shall be designed and constructed in accordance with the latest industry standards and drainage construction methods.

5.6.4 As the proposed drainage network principally serves the Heronsbridge School, it is anticipated that the majority of the on-site SuDS features and drainage infrastructure will be operated and maintained by the School's appointed facilities management team; therefore, may not be offered for adoption.

5.6.5 Where the proposed drainage system serves 2no. or more properties or enters public land, these parts of the network shall be offered for adoption (e.g., downstream of interfaces between the proposed school drainage and the residential scheme). SuDS Adoption Plans shall be developed as part of the Full-SAB application process, in consultation with the School, Bridgend County Borough Council SAB, Dŵr Cymru Welsh Water, and any other relevant third parties.

5.6.6 To ensure effective long-term operation of the drainage system, all drainage products and SuDS components shall be specified to ensure that the minimum design life is in accordance with industry standard guidance. The design life for drainage products is typically 60 years, unless otherwise specified by relevant design guidance or manufacturer specifications.

5.6.7 The Scheme's drainage network and SuDS features should be inspected and maintained by the contractor during construction and prior to handover.

5.6.8 During the first year of operation, regular monitoring of the system will be required to identify any changes, issues or modifications required to optimise the system. Inspection should also be undertaken immediately after a significant storm event. These inspections will help confirm the performance of the system and identify potential system failures such as blockages and/or poor water quality. To facilitate this, the proposed solutions are easily maintainable in terms of access, this has been a core consideration when developing the scheme.

5.6.9 Given the potential for voids associated with the underlying karst geology, key drainage features such as the RWH Tank and Geo-cellular Attenuation System should be installed following suitable ground improvement measures (e.g., compaction grouting). This is to mitigate the risk of these features subsiding if a void were to form in the bedrock below.

5.6.10 Assessment of buoyancy during periods of shallow groundwater, and anti-flotation requirements for below-ground tanks and lined SuDS features shall also be considered during the detailed design stage.

5.6.11 Vegetated SuDS features, including basins, dry swales, and raingardens, shall be designed with side slopes no steeper than 1:3 where possible, to facilitate safe and practical long-term maintenance activities such as mowing, debris removal, and replanting. Where banks are designed with steeper than 1:3 slopes (e.g., headwalls and steep slopes to avoid site constraints), these areas shall consider the use of vegetated bagwork retaining features to ensure suitable hydraulic performance and slope stability.

5.6.12 A detailed SuDS Maintenance and Management Plan will be prepared and submitted as part of the Full SAB application. This document will set out the proposed inspection, maintenance, and operational requirements for the drainage system throughout the lifecycle of the development.

5.6.13 The project is currently progressing through the RIBA Stage 4 design process. Prior to construction level design, the contractor will be required to prepare a Construction Environmental Management Plan (CEMP) as part of the detailed design and statutory approvals process, including measures for pollution prevention, sediment control, and protection of the surrounding water environment during construction.

6 Proposed Foul Water Drainage Strategy

6.1 Domestic Foul Flows

6.1.1 The proposed development will generate domestic foul flows from a range of internal plumbing fixtures such as WCs, urinals, wash hand basins, showers, cleaner's sinks, kitchen sinks, dishwashers, beverage points, and floor gullies etc.

6.1.2 It is proposed that foul drainage flows from the development will be connected, via private, gravity-driven foul drainage networks, to the existing DCWW foul sewer present on site at the nearest suitable location.

6.1.3 The Heronsbridge School development will provide educational facilities for 300no. pupils, with an allowance for 240no. staff. The residential area comprises 2no. houses; one for six children and two. staff bedrooms (School Residence), with the other for three children and one staff bedroom (Harwood House). Based on these figures, and applying reasonable assumptions / factors of safety, a worst-case population level of 608 persons can be estimated for the site. Table 6-1 below shows the proposed occupancy calculations for domestic flows from the development.

Table 6-1 – Scheme Occupancy & Domestic Foul Flows

Scheme Occupancy & Domestic Foul Flows		
School Building	**No.**	**Notes**
Pupils	300	Taken from RIBA Stage 4 report.
Staff	240	Taken from RIBA Stage 4 report.
Factor of Safety (10%)	54	
School Total Occupancy	**594**	
School Average Daily Foul Flow	11,880 L/d	Assuming 20 L/day per pupil or staff member.
School Peak Foul Flow	**2.4 L/s**	*Note: Includes Domestic Flows Only.*
Residential Units	**No.**	**Notes**
School Residence	8	Taken from RIBA Stage 4 report.
Harwood House	4	Taken from RIBA Stage 4 report.
Factor of Safety (min 10%)	2	
Residential Total Occupancy	**14**	
Resi. Average Daily Foul Flow	2,800 L/d	Assuming 200 L/day per occupant.
Resi. Peak Foul Flow (L/s)	**0.2 L/s**	*Note: Includes Domestic Flows Only.*
Overall Scheme Occupancy	**608**	
Average Daily Foul Flow	14,680 L/d	
Overall Peak Dom. Foul Flow	**2.6 L/s**	*Note: Includes Domestic Flows Only.*

6.1.4 Total domestic foul flows from the School and Residential development are shown in the above calculation to be 2.6 L/s.

6.1.5 The above flow calculation currently does not consider the foul flows from the Kitchen, Warm Water Pool, or Hydrotherapy Pool. At the time of writing, exact locations for foul SVPs / stacks and drainage flows were awaited from the specialist suppliers for the Kitchen and Pools. Foul drainage calculations are to be updated following receipt of this information.

6.2 Proposed Foul Water Drainage Strategy

6.2.1 The proposed foul drainage layout is shown on drawing **HER-CAM-ZZ-XX-D-C-000501** in **Appendix C**. The foul strategy shall be to implement conventional piped, gravity-driven drainage, as this is the most sustainable engineering solution. Due to the topography of the site and depth of the proposed outfalls, pumped foul flows are not anticipated to be necessary. Pipework and chambers shall be designed in accordance with industry standard design guidance, at gradients which ensure self-cleansing velocities are achieved.

6.2.2 The proposed foul drainage infrastructure serving the School shall be a private foul network which accepts flows from the Main School Building and any ancillary areas generating foul flows (e.g., plant areas, bin stores, and external taps / foul gullies). The private foul network is proposed to outfall into the existing public DCWW Foul Water Sewer, via a new proposed manhole connection upstream of SS90781301 which is situated within the northern extent of the site.

6.2.3 The proposed foul drainage infrastructure serving the Residential buildings will be separate from the School foul infrastructure. The residential foul network is proposed to outfall via a new connection into the existing DCWW Foul Water Manhole SS90782305. The residential foul drainage may need to be adopted (S104 / S106) in areas where it is serving both residential properties, subject to exact management arrangements for the two buildings. This is to be agreed between the client, Kier design team, and DCWW as statutory undertaker.

6.3 Kitchen Waste

6.3.1 In the instance of Heronsbridge School, the foul drainage serving the Kitchen area is considered to be domestic waste (rather than trade effluent), as there is no revenue generating activities anticipated within the School's Kitchen.

6.3.2 As shown on the foul drainage GA drawing, an external grease separator unit has been proposed to treat foul effluent with kitchen grease outside the building. The grease treatment strategy and requirement for grease traps (internal or external) is to be agreed with the Kitchen specialist and ultimately subject to DCWW approval.

6.4 Trade Effluent

6.4.1 Trade effluent is any liquid waste (effluent) discharged into the public sewerage network from businesses, industrial processes or commercial activities. Trade effluent is anticipated to be generated by the development, specifically by the proposed swimming pool and hydrotherapy pool. The pools are to be used for out-of-hour community use and are expected to generate revenue as a result.

6.4.2 Exact flow rates from the proposed warm water swimming pool and hydrotherapy pool are to be confirmed by the scheme pool designer. Following receipt of exact foul flow rates and associated backwash tank sizes from the scheme pool designer, a trade effluent consent shall be required for submission to DCWW.

6.5 DCWW Pre-Planning (PPA)

6.5.1 The PPA was submitted to DCWW during late RIBA Stage 2. A PPA response (ref: PPA0009692) was received from DCWW on 29 October 2025. With respect to drainage the main points within the PPA response were as follows:

- DCWW have considered the impact of foul flows generated by the proposed development and concluded that flows can be accommodated within the public sewerage system which is consistent with our representations to the forward planning consultation process. We advise that the flows should be connected to the foul sewer between manholes SS90781301 and SS90782305 located within the site to the north.
- The development requires approval of Sustainable Drainage Systems (SuDS) features, in accordance with the 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems'. As highlighted in these standards, the developer is required to explore and fully exhaust all surface water drainage options in accordance with the discharge hierarchy.
- No problems are envisaged with the Wastewater Treatment Works for the treatment of domestic discharges from this site.

7 Drainage & SuDS – Required Approvals & Next Steps

7.1 Drainage & SuDS Approvals

- Full-SAB approval required prior to construction. Full SAB to include detailed design drawings, calculations, exceedance routes, maintenance, and adoption plans.
- S106 Approval required for proposed surface water connection to existing DCWW 525mm sewer.
- S106 Approval required for proposed foul water existing DCWW 225mm sewer.
- Potential requirement for S104 adoption agreement with DCWW for residential drainage serving 2no. properties or more.
- Potential requirement for S185 agreement with DCWW for raising ground levels within the easement.
- Trade effluent consent may be required for pool backwash discharges.

7.2 Next Steps

- Complete outstanding drainage surveys, including jetting and further CCTV.
- Following survey, confirm sewer invert levels, condition, capacity, and remedial requirements.
- Following survey, confirm exact DCWW easements.
- Confirm final foul and surface water connection points.
- Receive final coordinated Stage 4 landscape masterplan from Scheme Architect.
- Receive coordinated Stage 4 designs for Kitchen, Pools, backwash tanks, RWPs etc. from specialist designers.
- Agree discharge rates, sewer connections and trade effluent requirements.
- Develop Stage 4 catchments, pipe sizes, manholes, SuDS, attenuation, and liner details.
- Update InfoDrainage modelling to suit final layout, levels, and SAB comments.
- Prepare Full SAB application with drawings, calculations, management plans, and supporting information.

8 Conclusions

8.1.1 This Drainage Strategy Report (DSR) has set out proposed foul and surface water drainage strategies for the Heronsbridge School development. The strategy has been developed to support the SAB submissions, PAC, planning, and BREEAM processes. The DSR references the Welsh Government Statutory Standards for SuDS, CIRIA SuDS Manual C753, Sewers for Adoption, Building Regulations Approved Document H, and other industry standard design guidance.

8.1.2 The drainage proposals respond to the key site constraints, including: the sloping greenfield topography, existing DCWW sewer easement crossing the northern part of the site, mapped surface water flood risk at the northern boundary, and karstic limestone geology beneath the site.

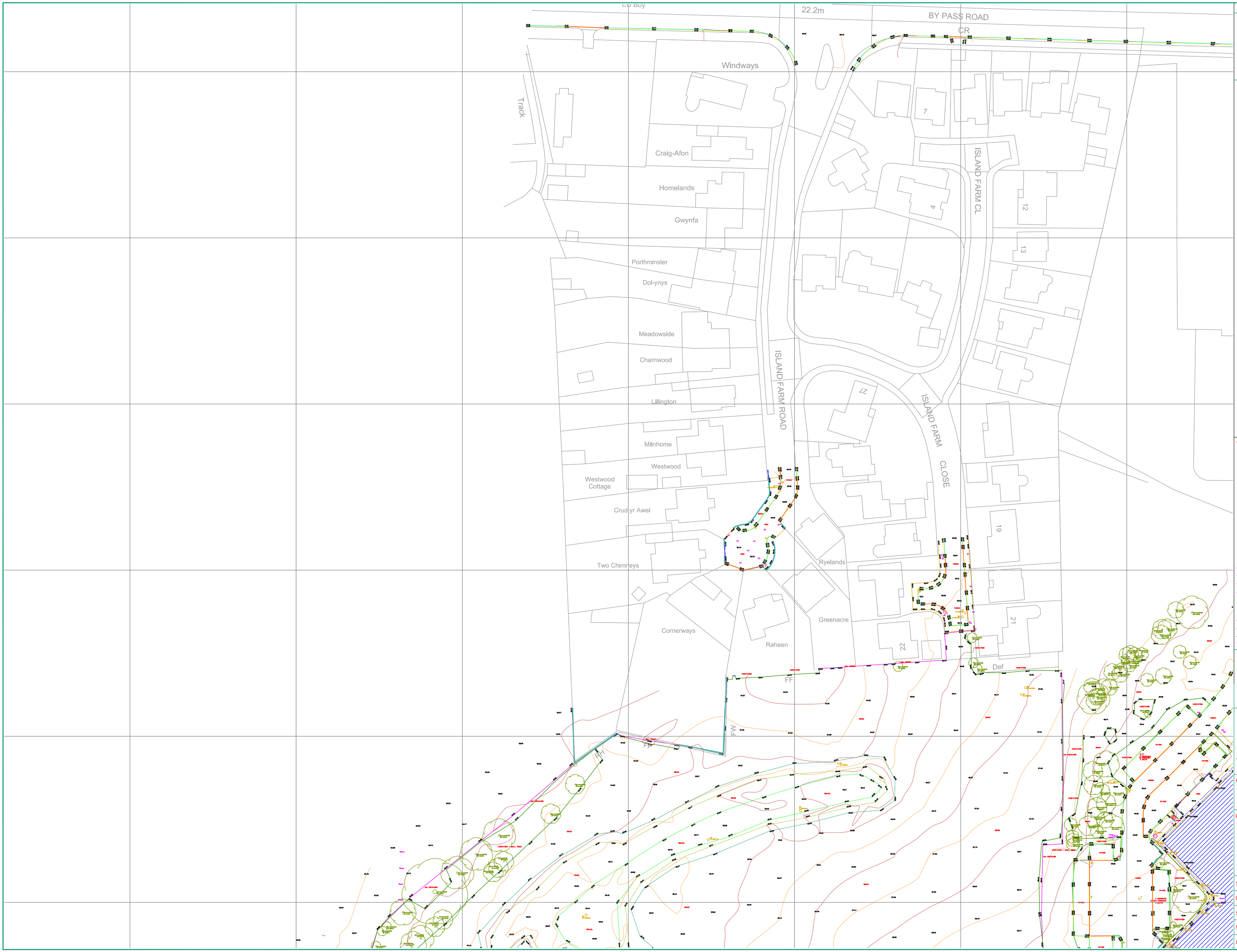
8.1.3 The surface water strategy adopts a SuDS-led approach, using rainwater harvesting, permeable surfacing, raingardens / bioretention areas, dry swales, filter drains, detention basins, and a geo-cellular attenuation system. Infiltration-based SuDS have been discounted due to the risk of limestone dissolution, ground instability, and potential groundwater impacts; therefore, all SuDS features and permeable surfaces are proposed to be impermeably lined.

8.1.4 Surface water will be attenuated on site and discharged to the existing DCWW surface water sewer at the restricted greenfield runoff rate, with the current estimated QBAR of 7.7 l/s subject to agreement with SAB and DCWW. The attenuation system has been sized to cater for the 1 in 100-year plus 40% climate change event, with exceedance managed to direct flows away from the school, residential buildings, existing neighbouring properties, and other critical infrastructure.

8.1.5 The foul water drainage strategy proposes conventional gravity drainage from the school and residential buildings to the existing DCWW foul network. Additional foul flows will be generated by the two pools and kitchen, with exact flows currently subject to specialist design inputs. DCWW's Pre-Planning Assessment has confirmed that domestic foul flows can be accommodated within the public foul system, subject to the required approvals.

8.1.6 The drainage strategy has been developed to ensure there shall be no detriment to the proposed development, adjacent land, or any properties downstream resulting from surface or foul water generated by the Scheme. Subject to the next steps listed in Section 7.2 and detailed design in subsequent stages, the proposed drainage strategy is considered appropriate, robust, and suitable for progression.

Appendix A: Site Survey Information



Rev	Amendments	Date	By

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NOTES:

1. SITE GRID AND LEVELS ARE BASED UPON ORDNANCE SURVEY VIA THE ACTIVE GPS NETWORK.

KEY

	BOTTOM OF BANK		
	TOP OF BANK		
	CONTOURS		VERGE
CAB	CABINET	ST1	SURVEY STATION
	TREE	TH=50.09	TREE HEIGHT
		PB	POST BOX SQUARE
		PB	POST BOX ROUND
		GRILL	GRILL SQUARE
		GRILL	GRILL ROUND
FH	FIRE HYDRANT	BL	BOLLARD ROUND
BT	BRITISH TELECOM	BL	BOLLARD SQUARE
CATV	CABLE TV	BIN	BIN SQUARE
	OVERHEAD LINE	BIN	BIN ROUND
GV	GAS VALVE	38.32	SPOT LEVEL
1.0BR	BRICK WALL	ASP	ASPHALT
1.0BL	BLOCK WALL	GR	GRASS
1.0ST	STONE WALL	GRAV	GRAVEL
	VEGETATION	H/S	HARDSTANDING
2.0 CB	CLOSE BOARD	BB	BELISHA BEACON
1.6 PR	POST RAIL FENCE	RS	ROAD SIGN
1.8 H	HERAS FENCE	TS	TRAFFIC SIGNAL
2.0 PW	POST WIRE FENCE	IC	INSPECTION COVER
	DROPPED KERB	MH	MANHOLE SQUARE
	KERB CHANNEL	MH	MANHOLE ROUND
	TOP OF KERB	MP	MARKER POST
RL=46.12	RIDGE LEVEL	TP	TELEGRAPH POLE
EL=43.88	EAVE LEVEL	LC	LIGHTING COLUMN
FFL=40.55	FINISHED FLOOR LEVEL	G	GULLY
FR=42.99	FLAT ROOF LEVEL	WM	WATER METER
		SV	SLUICE VALVE
		ST	STOP TAP

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PROJECT
TOPOGRAPHICAL SURVEY
HERONSBRIDGE,
BRIDGEND.

Surveyed by	MH	Date	11-04-2023
Drawn	MH	Date	26-04-2023
Scales	1:500@A1	Checked:	TC
Project Reference No.	ALS/5496		
Drawing Number	HER/01		

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NOTES:

1. SITE GRID AND LEVELS ARE BASED UPON ORDNANCE SURVEY VIA THE ACTIVE GPS NETWORK.

KEY

BOTTOM OF BANK
TOP OF BANK
CONTOURS
CAB CABINET
TREE
FH FIRE HYDRANT
BT BRITISH TELECOM
CATV CABLE TV
OVERHEAD LINE
GV GAS VALVE
1.0BR BRICK WALL
1.0BL BLOCK WALL
1.0ST STONE WALL
VEGETATION
2.0 CB CLOSE BOARD
1.6 PR POST RAIL FENCE
1.8 H HERAS FENCE
2.0 PW POST WIRE FENCE
DROPPED KERB
KERB CHANNEL
TOP OF KERB
RL=46.12 RIDGE LEVEL
EL=43.88 EAVE LEVEL
FFL=40.55 FINISHED FLOOR LEVEL
FR=42.99 FLAT ROOF LEVEL
VERGE
ST1 SURVEY STATION
TH=50.09 TREE HEIGHT
PB POST BOX SQUARE
PB POST BOX ROUND
GRILL GRILL SQUARE
GRILL GRILL ROUND
BL BOLLARD ROUND
BL BOLLARD SQUARE
BIN BIN SQUARE
BIN BIN ROUND
28.32 SPOT LEVEL
ASP ASPHALT
GR GRASS
GRAV GRAVEL
H/S HARDSTANDING
BB BELISHA BEACON
RS ROAD SIGN
TS TRAFFIC SIGNAL
IC INSPECTION COVER
MH MANHOLE SQUARE
MH MANHOLE ROUND
MP MARKER POST
TP TELEGRAPH POLE
LC LIGHTING COLUMN
G GULLY
WM WATER METER
SV SLUICE VALVE
ST STOP TAP

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PROJECT
TOPOGRAPHICAL SURVEY
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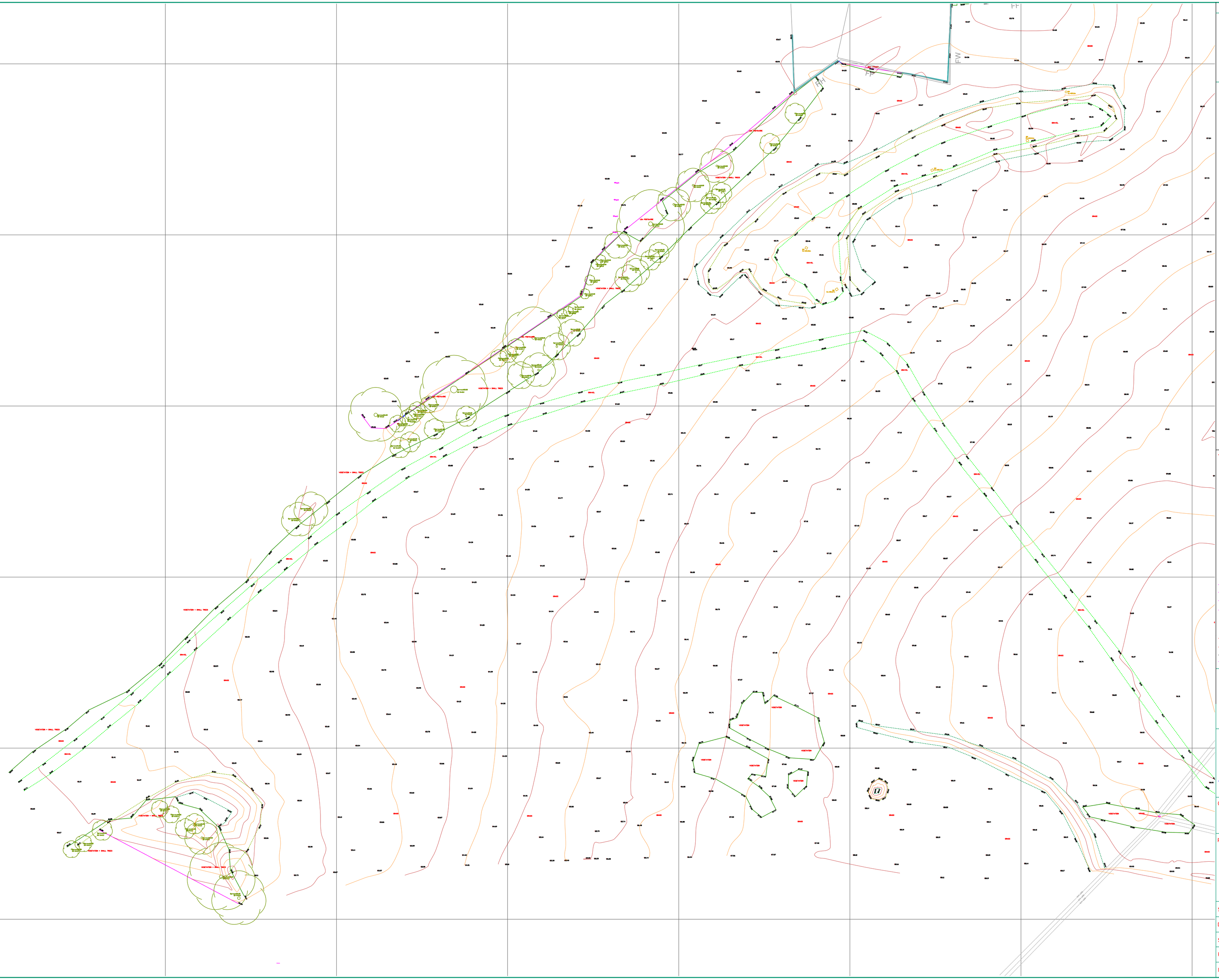
FW
FH
FH
VEGETATION + SMALL TREES
VEGETATION
VEGETATION
VEGETATION

Rev	Amendments	Date	By

Do not scale this drawing
This drawing is copyright.

NOTES:

1. SITE GRID AND LEVELS ARE BASED UPON ORDNANCE SURVEY VIA THE ACTIVE GPS NETWORK.

KEY

	BOTTOM OF BANK		
	TOP OF BANK		
	CONTOURS		VERGE
CAB	CABINET	ST1	SURVEY STATION
	TREE	TH=50.09	TREE HEIGHT
		PB	POST BOX SQUARE
		PB	POST BOX ROUND
		GRILL	GRILL SQUARE
FH	FIRE HYDRANT	GRILL	GRILL ROUND
BT	BRITISH TELECOM	BL	BOLLARD ROUND
CATV	CABLE TV	BL	BOLLARD SQUARE
	OVERHEAD LINE	BIN	BIN SQUARE
GV	GAS VALVE	BIN	BIN ROUND
1.0BR	BRICK WALL	SB 32	SPOT LEVEL
1.0BL	BLOCK WALL	ASP	ASPHALT
1.0ST	STONE WALL	GR	GRASS
		GRAV	GRAVEL
	VEGETATION	H/S	HARDSTANDING
2.0 CB	CLOSE BOARD	BB	BELISHA BEACON
1.6 PR	POST RAIL FENCE	RS	ROAD SIGN
1.8 H	HERAS FENCE	TS	TRAFFIC SIGNAL
2.0 PW	POST WIRE FENCE	IC	INSPECTION COVER
	DROPPED KERB	MH	MANHOLE SQUARE
	KERB CHANNEL	MH	MANHOLE ROUND
	TOP OF KERB	MP	MARKER POST
RL=46.12	RIDGE LEVEL	TP	TELEGRAPH POLE
EL=43.88	EAVE LEVEL	LC	LIGHTING COLUMN
FFL=40.55	FINISHED FLOOR LEVEL	G	GULLY
FR=42.99	FLAT ROOF LEVEL	WM	WATER METER
		SV	SLUICE VALVE
		ST	STOP TAP

APPROX N

Alpine Land Surveyors Ltd.
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Hirwaun Industrial Estate,
Hirwaun,
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CF44 9UP
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CLIENT
AECON

PROJECT
TOPOGRAPHICAL SURVEY
HERONSBRIDGE,
BRIDGEND.

Surveyed by	MH	Date	11-04-2023
Drawn	MH	Date	26-04-2023
Scales	1:500@A1	Checked:	TC
Project Reference No.	ALS/5496		
Drawing Number	HER/04		

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A1

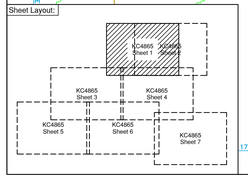
Scale 1:200

2 0 2 4 6 8 10 20

Distances in metres

National Grid

Sheet Layout:



Abbreviations:

ac	access chamber	mh	man hole	sc	height (of feature)			brick	
BB	Bollard	mk	marker post	SP	spot height			C	concrete
BL	Bollard (Illuminated)	NP	name board	▲OSGC	survey control point			CB	concrete block
BT	bench	OCP	overhead cable/wire pylon					CK	concrete kerb
CD	telecom. inspection cover	OL	overhead cable/wire	**Coding**				ST	stone
CATV	cable television cover	pb	parking bay	BH	broad leaf tree			W	tree-standing ash (e.g.: S/WE)
CH	chimney pot	PC	parking cone	CF	conifer				
DC	drainage channel	pd	parking disc	CH	chimney pot			**Drainage Features**	
DW	drop kerb	PED	pedestal	CR	crop			CI	cover inlet
EL	electricity cover	PH	phone box	DC	drainage channel			CO	cleaning eye
EP	electricity pole	pl	pipeline	DW	drop kerb			FW	flood water sewer
FB	flower bed	PO	post	EP	electricity pole			FWM	flood water manhole
FH	flower tree	pp	sign post	FB	flower bed			FWO	flood water outlet
FL	fuel tank vent	PT	pylon	FH	flower tree			UTL	unable to lift
GP	gate post	RAIL	rail	FW	flood water sewer			UTM	unable to map
GT	gate	RAM	rail mast (Ram)	GP	gate post				
HP	hand rail	RB	raised bed	GT	gate			**Coding**	
HT	hedge	RE	rectangular end	HP	hand rail				cross direction of flow
HY	fire hydrant	RG	roadside sign	HT	hedge				
IC	inspection cover (general)	RM	rail mast (Ram)	HY	fire hydrant				
JB	junction box	RW	retaining wall	IC	inspection cover (general)				
LP	lamp post	SAT	satellite dish	JB	junction box				
MB	marker post	SC	soil vent pipe	LP	lamp post				
		SD	soakaway	MB	marker post				
		SG	stop cock	MH	man hole				
		SI	storage tank	NP	name board				
		SN	street name	OCP	overhead cable/wire pylon				
		SP	spot height	OL	overhead cable/wire				
		ST	stone	pb	parking bay				
		TB	traffic box	PC	parking cone				
		TC	traffic cone	pd	parking disc				
		TL	traffic light	PED	pedestal				
		TP	telegraph pole	PH	phone box				
		TR	tree	pl	pipeline				
		VA	vent shaft	PO	post				
		WA	water valve	pp	sign post				
		WM	water meter	PT	pylon				
				RAIL	rail				
				RAM	rail mast (Ram)				
				RB	raised bed				
				RE	rectangular end				
				RG	roadside sign				
				RM	rail mast (Ram)				
				RW	retaining wall				
				SAT	satellite dish				
				SC	soil vent pipe				
				SD	soakaway				
				SG	stop cock				
				SI	storage tank				
				SN	street name				
				SP	spot height				
				ST	stone				
				TB	traffic box				
				TC	traffic cone				
				TL	traffic light				
				TP	telegraph pole				
				TR	tree				
				VA	vent shaft				
				WA	water valve				
				WM	water meter				

Notes:

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- Engineering Surveys
- Measured Building Surveys
- Boundary Surveys
- OS Mapping and Data Centre
- Underground Utility Surveys

Island Farm, Bridgend, CF31 3LG

Topographical Survey - Sheet 1 of 7

Client	Kier						
Coord Grid	Plane Grid related to National Grid		Level Datum	OS Datum via Active GPS			
Scale	1:200@A0	Date	Oct 2025	Status	Final	Job No.	KC4865
Surveyed	ALS	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-01

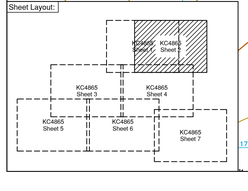
Scale 1:200

2 0 2 4 6 8 10 20

Distances in metres

National Grid

Sheet Layout:



Abbreviations:

BB	Bellaire Beacon	MH	man hole	ht	height (of feature)
BC	Bellaire Connector	NK	nail marker	▲9002	survey control point
BL	ballard	NB	name board		
CB	catchpit / inspection cover	NT	network cable/wire	Colours	
CATV	cable television cover	PO	post	DB	Dolfen wire
CCTV	CCTV camera post	RE	reflector post	G	grass
DP	drainage channel	RS	road sign	GR	green
DS	drop kerb	RSJ	rolled steel joist	OR	orange
EB	electricity box	SP	sprinkler valve	P	pink
EP	electricity pole	SP	stop post	PU	purple
FH	earth rod	SP	sign post	R	red
FL	finished floor level	SW	soil vent stack	W	white
GP	guard post	TP	metal mesh	Y	yellow
GV	gate valve	TP	open boarded		
HP	gate post	TP	telegraph	Materials	
HY	hydrant	TP	timber post	C	concrete
HY	fire hydrant	VP	vent	CB	concrete block
IC	inspection chamber (general)	WB	wooden batten	CI	cast iron
IL	junction box	WP	wooden post	M	stone
KO	kerb outlet	WP	wet pipe	RW	retaining wall (e.g. S/RW)
LP	lamp post	WM	water meter	T	tree-including soft (e.g. T/H)

Notes:

Revisions:

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Island Farm, Bridgend, CF31 3LG

Topographical Survey - Sheet 2 of 7

Client: Kier

Coord Grid	Plane Grid related to National Grid			Level Datum	OS Datum via Active GPS		
Scale	1:200@A0	Date	Oct 2025	Status	Final	Job No.	KC4865
Surveyed	ALS	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-01

Scale 1:200

2 0 2 4 6 8 10 20

Distances in metres

National Grid

280000E 280050E 280100E 280150E 280200E

178300N 178250N 178200N

dense foliage

grass / gravel

bracken

remove root

crop field

Sheet Layout:

KC4865 Sheet 1 | KC4865 Sheet 2 | KC4865 Sheet 3 | KC4865 Sheet 4 | KC4865 Sheet 5 | KC4865 Sheet 6 | KC4865 Sheet 7

Abbreviations:

BB	Bellway Beacon	MH	man hole	tr	height (of feature)
BH	borehole (trial hole)	MP	marker post	TP	pole (utilities or
BL	ballard	NB	name board		survey control point)
CI	chamber, inspection cover	OHC	overhead cable/wire	A1000	survey control point
CPV	cable television cover	OP	post		
DPA	cairn, paving stake	PE	reflective eye	Crops	
DS	drop kerb	RF	reflector post	CE	celled wire
EB	electricity box	RG	rodding eye	CN	crops
EP	electricity pole	RMP	rolled steel plat	CR	close boarded
FH	fire hydrant	SP	rain water pipe	CW	chain link
GP	earth rod	SV	sign post	CZ	corrugated metal panel
GT	gate to field	TB	stanchion	DC	concrete panel
FFL	finished floor level	TBM	temporary bench mark	DE	dense hedge
GP	gate post	TC	traffic counter	M	metal rail
GR	gas riser	TP	unknown wooden slot	MW	mesh wire
GV	gas valve	UB	open boarded	PA	palisade
HR	hand rail	UC	open chain	PW	post & wire
HT	fire hydrant	UP	pedestal	RW	railway rail
IC	inspection cover (general)	VP	vent pipe	WH	wire
LP	lamp post	WC	traffic count	WM	wood top
LP	temp point	WM	water meter	WP	wooden post (e.g.: SP/SL)
				WP/BW	wooden post (e.g.: WP/BW)

BWA	brick
C	concrete
CB	concrete block
CP	concrete panel
S	stone
W	retaining wall (e.g.: S/RW)
WB	retaining wall (e.g.: SW)

Drainage Features

CL	cover level
D	invert depth
FW	foul water
FWS	foul surface water
FWSO	storm water sewer
FWSW	surface water sewer
FWU	unable to determine
IL	invert level
pipe diameter (mm)	
pipe material	
-->	pipe arrow indicates direction of flow

Notes:

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Topographical Survey - Sheet 3 of 7

Client: Kier

Coord Grid	Plane Grid related to National Grid			Level Datum	OS Datum via Active GPS		
Scale	1:200@A0	Date	Oct 2025	Status	Final	Job No.	KC4865
Surveyed	ALS	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-01

Scale 1:200

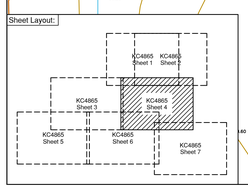
2 0 2 4 6 8 10 20

Distances in metres

N

National Grid

Sheet Layout:



Abbreviations:

AB	Adobe beacon	MP	main pipe	H	height (of feature)
B	Bollard (Illuminated)	MP	marker post	OH	over hanging
BH	bore hole	MH	metal hand hole	OHL	overhead power cable/wire
BT	BT	MB	metal marker board	OHW	overhead wires
CCTV	telecom inspection cover	MO	metal marker post	P	post
CP	concrete post	MS	metal stake	RE	reading eye
CPS	conc. posting stake	MU	metal upright	RP	rain water pipe
DI	drain inspection	MW	metal wheel	RWP	rain water pipe
DP	drain	MWP	metal waste pipe	SP	soil pipe
EP	electricity pole	NRP	non return valve	SP	sign post
ER	earth rod	OP	open pipe	SPS	stone posting stake
FB	flower bed	PC	pedestal control	SV	stop valve
FL	fence level / fence level	PO	pipe outlet	SV	stop valve
FP	flag pole	PV	pipe valve	SWP	soil vent pipe
GP	guard post	PVC	polyvinyl chloride	TP	telegraph pole
GV	gas valve	RP	reinforced pipe	TP	telephone pole
HP	hydrant post	RS	road sign	TP	tree protection
IC	inspection cover (general)	SI	telephone pole	TS	traffic signal
LP	lamp post	SP	soil pipe	WP	wooden post (e.g.: WP/SW)
LP	lamp post	WM	water meter		

BOL	bollard
C	cable
CB	concrete block
D	dense bushes
H	hedge
RW	retaining wall (e.g.: S/RW)
W	free-standing wall (e.g.: SW)
Symbols Exclusive	
W	tree/shrub width
H	tree/shrub height
CL	centre line
FWS	foul surface sewer
SWS	storm water sewer
CWS	combined water sewer
CP	unable to determine
UTL	unable to lift
NAD	not accessible
NFA	no further access
⇒	arrow indicates direction of flow

Notes:

Revisions:

Acclaim

Cadcorp SIS

Ordnance Survey

BSI Kitemark

EUROPEAN GPR ASSOCIATION

ASSOCIATIONS

ALS

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Engineering Surveys
Measured Building Surveys
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Topographical Survey - Sheet 4 of 7

Client	Kier						
Coord Grid	Plane Grid related to National Grid			Level Datum	OS Datum via Active GPS		
Scale	1:200@A0	Date	Oct 2025	Status	Final	Job No.	KC4865
Surveyed	ALS	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-01

Scale 1:200

2 0 2 4 6 8 10 20

Distances in metres

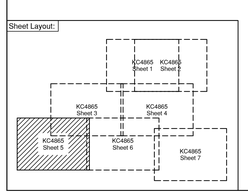
N

National Grid

288900E 289000E 289100E 289200E 289300E

178200N 178150N 178100N

Sheet Layout:



Abbreviations:

BB Bellaha beacon
BL Bollard (illuminated)
Bollard
CP Telecom inspection cover
CCTV cctv camera pole
CPS cctv_paving slabs
DM drainage channel
DP drop pipe
EC electricity pole
ES earth rail
FC fence post
FFL finished floor level
GP dog stoop
GR grating
GV gas valve
HR hedge
HY fire hydrant
LP lighting column (general)
MH position hole
MP kerb outlet
MV valve post
MW main hole
NP manhole cover
NB name board
OH overhead
OHP overhead cable/wire
PO post
PP parking sign
RP reflector post
RS road sign
SCP sign post
SWP rain water pipe
SP sign
SPT sign post
TBS telephone kiosk
TPO utility pole
TW threshold trap
VP vent pipe
WA water valve
WC water course
WL threshold trap
WM water meter
WP water pipe
WT water tap
WV water valve
WW water meter
YC height (of feature)
——— arrow indicates up (unless otherwise stated)
AOD Above Ordnance Datum

Below
BP Bollard wire
CB chain
CH chain bollarded
CHP chain link
CMP concrete/cast metal panel
CP concrete panel
CPT concrete post
MP metal rail
MPT metal/concrete wooden slat
MR metal rails
OB open bollarded
PA palisade
PL pallisade
R wooden rail
S wire
WBA wood top
WP concrete post (e.g.- CP/SL)
WPT wooden post (e.g.- WP/SW)

Walls
B brick
C concrete
CB concrete block
ST dry stone revetts
S stone
RW retaining wall (e.g.- S/RW)
W free-standing wall (e.g.- SW)

Ordnance Datum Points
P Pillar (Flush)
S Scratch
T Trig point
TBC Top water tower
TWC Top water tower
UKO combined water sewer
UTO unable to determine
WC water course
pipe diameter (mm)
SL - soffit level
arrow indicates direction of flow

Notes:

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Topographical Survey - Sheet 5 of 7

Client: Kier

Coord Grid	Plane Grid related to National Grid		Level Datum	OS Datum via Active GPS			
Scale	1:200@A0	Date	Oct 2025	Status	Final	Job No.	KC4865
Surveyed	ALS	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-01

SWS sht. 03907

Scale 1:200

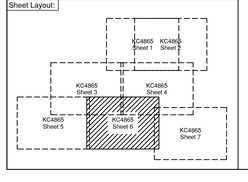
2 0 2 4 6 8 10 20

Distances in metres

N

National Grid

Sheet Layout:



Abbreviations:

BB	Bebbo beacon	MH	man hole	ht	height (of feature)
BL	Bollard (illuminated)	NP	new post	(m)	level (in metres)
BT	bench	OH	info point	---	(unless otherwise stated)
BX	telecom inspection cover	OHL	overhead	▲AG02	survey control point
CATV	cable television cover	O/G	overhead cable/wire	**Cars**	
CC	concrete collar	PC	post	C	car
DC	drainage channel	RE	railway eye	CP	car park
DR	drop kerb	RM	road marker post	CV	chain link
EP	electricity pole	RSJ	rolled steel joist	CW	corrugated metal panel
FB	earth trig point	SA	sand and silver store	DC	dropped kerb
FL	flower bed	SIG	signpost	DP	distribution pole
FP	flood protection level	SPG	sighting	EC	electricity cover
FT	flag staff	SPR	spring in existing stake	MH	manhole
GP	gate post	SVP	soil vent pipe	MW	manhole/cover wooden slat
GT	guy post	TBM	temporary bench mark	NC	neon cover
HB	hydrant	TCP	traffic cone	NS	neon standard
HC	hedge	TL	traffic light	PA	paling
HP	hydrant post	TP	telegraph pole	PL	post and wire
IC	inspection cover (general)	TS	triangulation station	R	wooden rail
JB	junction box	UP	utility pole	W	wire
LB	letter box	VC	cable TV	WB	wooden log
LP	lamp post	WC	water course	WP	concrete post (e.g.: CP/CL)
		WM	water meter	WP	wooden post (e.g.: WP/SW)

Hts
- B brick
- C concrete
- CB concrete block
- G gabion baskets
- M metal
- PW retaining wall (e.g.: S/PW)
- W tree-standing wall (e.g.: SW)

Drainage Features
- CL cover level
- IL invert level
- SL sump level
- FW foul water manhole
- SWS storm water sewer
- SWM storm water manhole
- OFC connection to other office
- UTL unable to lift
- BC back connection
- EC end connection
- ⇨ arrow indicates direction of flow

Notes:

Revisions:

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Topographical Survey - Sheet 6 of 7

Client: Kier

Coord Grid	Plane Grid related to National Grid		Level Datum	OS Datum via Active GPS			
Scale	1:200@A0	Date	Oct 2025	Status	Final	Job No.	KC4865
Surveyed	ALS	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-01

Scale 1:200

2 0 2 4 6 8 10 20

Distances in metres

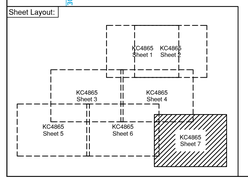
N

National Grid

285300E 285350E 285400E 285450E 285500E

178150N 178100N 178050N

Sheet Layout:



Abbreviations:

BB	Bellaire beacon	MH	main hole	HL	height (of feature)
BL	Bollard (Illuminated)	MP	marker post	⊙	arrow indicates at
BL	Bollard	NB	new build	▲A1001	survey control point
BT	telecom inspection cover	NB	name board	▲A1001	survey control point
CCTV	CCTV camera	OHC	overhead		
CPS	conc. posting stake	OHL	overhead cable/wire	**Fences**	
DI	drainage inspection	OP	post	BW	bollard wire
DI	drop kerb	RE	rodding eye	CL	chain link
DP	drain	RG	road gully	CLB	chain link bunded
DP	dropping pole	RG	road sign	CLK	chain link
EB	electricity pole	RSP	reinforced concrete	CLP	chain link metal panel
EP	earth rail	SMP	rain water pipe	CP	concrete panel
ES	earth rod	SP	sign post	CPO	concrete post
FB	flower bed	SPS	signal post	HR	metal rail
FG	finished ground level	SPS	stone posting stake	MB	blakemore wooden slat
FP	flag pole	SV	stop valve	MW	mesh bunded
GP	gas governor	SV	stop valve	PA	palisade
GV	gas valve	SWT	self vent pipe	PA	paling
HP	hand pump	TC	traffic counter	PO	post only
HY	fire hydrant	TP	threaded hole	PO	wooden rail
IC	inspection cover (general)	TP	tree pit	WA	wall
LC	level cover	TP	telephone pole	WW	wire wood top
LS	kerb sunken	VP	vent pipe	WP	wooden post (e.g.: GP/GL)
LP	lamp post	WM	water meter	WP	wooden post (e.g.: WP/BW)

Walls

B	brick
BA	concrete block
CB	concrete block
S	gabion basket
ST	stone
RW	retaining wall (e.g.: S/RW)
W	free-standing wall (e.g.: SW)

Hydrogeology Designations

SPZ	source protection zone
GI	groundwater interest
SI	surface water interest
UNK	unable to determine
UNL	unable to fill
EL	extraction licence
IL	injection licence
↑	flow arrow indicates direction of flow

Notes:

Revisions:

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Island Farm, Bridgend, CF31 3LG

Topographical Survey - Sheet 7 of 7

Client	Kier						
Coord Grid	Plane Grid related to National Grid		Level Datum	OS Datum via Active GPS			
Scale	1:200@A0	Date	Oct 2025	Status	Final	Job No.	KC4865
Surveyed	ALS	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-01

Radiodetection and Ground Penetrating Radar has been used to trace the services shown on these drawings. It must be noted that these methods are not infallible, and whilst Azimuth have used our best endeavours in locating the above services, the accuracy of the underground services shown on these drawings cannot be guaranteed or approximate. Contractors should confirm the accuracy of these drawings by using trial pits or other methods before commencing work.

Utilities may continue outside the survey extents. Any point marks outside the survey extents are for investigative purposes only and do not represent the full extent of the sub-surface utilities. Only sub-surface information is provided, any above ground information is to assist with positional referencing.

Where logically a utility may exist due to above ground indication but cannot be confirmed with technology – an assumed route (ASR) is recorded.

Irrespective of the information provided by a utility survey and location, excavation works should be undertaken with due care and caution and in accordance with HSE guidelines (HSG47 – Avoiding danger from underground services).

Service Legend

- BT — British Telecom
- TV — CCTV
- COM — Communication
- CD — Drainage, Combined
- FD — Drainage, Foul
- SD — Drainage, Storm
- D — Duct
- GAS — Gas
- SL — Power, Street Lighting
- LV — Power, Low Voltage
- HV — Power, High Voltage
- PW — Power, Misc or Unidentified
- TW — Trade Waste
- TM — Traffic Management
- W — Water Main
- UNK — Unknown Service/Contact
- Multi U/G Services & Extents
- Unable to survey
- CAT — Unknown CAT Contact
- GPR — Unknown GPR Contact
- OHC — Overhead Cable
- OHC (COM) — Overhead Communications Line
- OHC (PW) — Overhead Power Line

NOTES

Any String with "A" attached to the lettering denotes an assumed line, e.g BT-A.

It is not always possible to identify all contacts, and some services are untraceable.

Many types of services e.g. BT (British Telecom) have multiple cables which are only shown as a single line on the plan.

Scale 1:200

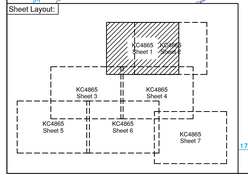
2 0 2 4 6 8 10 20

Distances in metres

N

National Grid

Sheet Layout:



Abbreviations:

BB	Bellway beacon	MH	man hole	ht	height (of feature)
BL	Bollard (Illuminated)	MP	marker post	inv	invert (of feature)
BL	Bollard	NB	name board	A1000	survey control point
BT	British Telecom	OHC	overhead		
CCTV	closed circuit television	OHL	overhead cable/wire	DESIGN	
CP	cable pole	OP	post	CP	Capped wire
CPO	cable pole with	PB	parking bay	CP	Cable
CPO	cable pole with	PB	parking post	CP	cross bonded
CS	cable stay	PC	rodding point	CP	cross link
DP	drop kerb	PCU	raised kerb	CP	concrete post, metal panel
DP	dropped kerb	PMP	rain water pipe	CP	concrete panel
DP	dropped pipe	PO	pole	CP	Cut & cap
EP	electricity pole	SP	sign post	CP	metal rail
ER	earth rod	SPG	stone paving slabs	MH	Interceptor manhole
FFL	earth rod	SPG	stone paving slabs	MH	Interceptor, wooden slat
FL	finished floor level	SV	stop valve	MH	open bottomed
GP	gate post	TP	telegraph pole	MH	open bottomed
GV	gas valve	TRL	traffic light	PA	pedestal
GV	gate valve	TRL	traffic light	PA	pedestal
HP	hand pump	TS	traffic sign	PA	pedestal
IC	Inspection cover (general)	VT	vent	PA	pedestal
IC	inspection cover	W	water	WM	water mist
KO	kerb outlet	WB	water board	WP	wooden post (e.g.: WP/DG)
LP	lamp post	WM	water meter	WP	wooden post (e.g.: WP/BW)

BRK	brick		
C	concrete		
CB	concrete block		
G	gabion baskets		
M	metal		
RW	retaining wall (e.g.: S/RW)		
TIM	tree-retaining wall (e.g.: TW)		

Symbols Patterns

- IC inspection chamber
- IL invert depth
- TWC telecom
- TWS foul water sewer
- CWS storm water sewer
- CWC combined water sewer
- LTC cable to telephone
- LTP telephone pole
- (dia) diameter (mm)
- (dim) dimensions

Arrow indicates direction of flow.

Notes:

Revisions:

Acclaim Accredited
Constructionline Gold
CHAS Elite
Cyclops Safe Contractor Approved
CHECKMATE PLUS
EUROPEAN GPR ASSOCIATION
THE SURVEY ASSOCIATION

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- ❑ Engineering Surveys
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Island Farm, Bridgend, CF31 3LG

Underground Survey - Sheet 1 of 7

Client	Kier						
Coord Grid	Plane Grid related to National Grid			Level Datum	OS Datum via Active GPS		
Scale	1:200@A0	Date	Oct 2025	Status	Draft	Job No.	KC4865
Surveyed	J. North	Drawn	L. Rajnohová	Checked	R. Williams	Dwg. No.	KC4865-02

Radiodetection and Ground Penetrating Radar has been used to trace the services shown on these drawings. It must be noted that these methods are not infallible, and whilst Azimuth have used our professional judgement in the interpretation of the information, the underground services shown on these drawings are indicative and approximate. Contractors should confirm the accuracy of these drawings by using trial pits or other methods before commencing excavation.

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Service Legend

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- COM — Communication
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- FD — Drainage, Foul
- SD — Drainage, Storm
- D — Duct
- GAS — Gas
- SL — Power, Street Lighting
- LV — Power, Low Voltage
- HV — Power, High Voltage
- PW — Power, Misc or Unidentified
- TW — Trade Waste
- TM — Traffic Management
- W — Water Main
- UNK — Unknown Service/Contact
- Multi U/G Services & Extents
- Unable to survey
- CAT — Unknown CAT Contact
- GPR — Unknown GPR Contact
- OHC — Overhead Cable
- OHC (COM) — Overhead Communications Line
- OHC (PW) — Overhead Power Line

NOTES

Any String with "A" attached to the lettering denotes an assumed line, e.g BT-A.

It is not always possible to identify all contacts, and some services are untraceable.

Many types of services e.g. BT (British Telecom) have multiple cables which are only shown as a single line on the plan.

Scale 1:200

2 0 2 4 6 8 10 20

Distances in metres

National Grid

Sheet Layout:

KC4865 Sheet 1 · KC4865 Sheet 2 · KC4865 Sheet 3 · KC4865 Sheet 4 · KC4865 Sheet 5 · KC4865 Sheet 6 · KC4865 Sheet 7

Abbreviations:

BB	Belisha beacon	MH	main hole
BI	Bollard (Illuminated)	MP	marker post
BO	Bollard	MS	mile post
CCTV	cable television cover	OHC	overhead cable/wire
CH	chamber (general)	PC	pedestal
DC	drainage channel	PG	cladding eye
DI	drain inlet	RC	reflector post
DP	dish	RG	road gully
EP	electricity pole	SAT	rotary dish dish
FB	flower bed	SIGN	road sign
FH	fire hydrant cover	SPS	stone paving slabs
FO	flag stone	STW	stop valve
GP	guard post	SV	sluice valve
GV	gas valve	TP	soft work pipe
HH	handhole	TS	telephone pole
IC	ice point	TSL	threshold hole
IL	inspection cover (general)	TV	traffic signal
JB	junction box	UP	cable TV
LP	lamp post	VP	vent pipe
LT	lamp post	WM	water meter
		WT	weight (on feature)
		▲9000	survey control point (unless otherwise stated)

Colours

- BL — bricked wire
- BRN — brown
- CL — clear toned
- CM — corrugated metal
- CP — corrugated plastic
- GN — green wire
- GY — grey wire
- IS — interwoven wooden slat
- MM — metal mesh
- PT — painted metal
- PL — palling
- RL — railway
- S — wooden rail
- W — wire
- WM — wood rail
- CP — concrete post (e.g.: CP/CL)
- WP — wooden post (e.g.: WP/BW)

Materials

- B — brick
- C — concrete
- CB — concrete block
- E — earthen banking
- M — mixed
- PW — post-and-wire wall (e.g.: S/PW)
- W — then-shrubbing wall (e.g.: SW)

Drainage Features

- CL — cover level
- D — invert depth
- T — top invert
- FW — foul water sewer
- SW — storm water sewer
- CWS — combined water sewer
- SD — soakaway/dry dome
- CVL — cradle for CVL
- dia — diameter (mm)
- ø — diameter (mm)
- → — one arrow indicates direction of flow

Notes:

Revisions:

Topographical Surveys · Engineering Surveys · Measured Building Surveys · Boundary Surveys · OS Mapping and Data Centre · Underground Utility Surveys

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Island Farm, Bridgend, CF31 3LG

Underground Survey - Sheet 2 of 7

Client: Kier

Coord Grid	Plane Grid related to National Grid			Level Datum	OS Datum via Active GPS		
Scale	1:200@A0	Date	Oct 2025	Status	Draft	Job No.	KC4865
Surveyed	J. North	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-02

Scale 1:200

2 0 2 4 6 8 10 20

Distances in metres

N

National Grid

280050E 280100E 280150E

178300N 178250N 178200N

dense foliage

grass / gravel

WH ICS (SWS)
CL6/96
cable TV
below ground

WH STA (SWS)
CL6/96
cable TV
below ground

bracken

nomads road

gravel

crop field

Sheet Layout:

KC4865 Sheet 1
KC4865 Sheet 2
KC4865 Sheet 3
KC4865 Sheet 4
KC4865 Sheet 5
KC4865 Sheet 6
KC4865 Sheet 7

Abbreviations:

BH	Bellow Hatrack	MH	man hole	td	height (of feature)
BL	Bollard	MP	mile post	TP	temporary peg
BS	Bollard (Illuminated)	NP	name board		(unless otherwise stated)
CB	catch pit	OHL	overhead cable	▲BM22	survey control point
CL	telecom inspection cover	OHC	overhead cable/wire		
CATV	cable television cover	PC	post	Kerbs	
CH	chain link fence	RE	reading eye	DK	dropped kerb
CD	drainage channel	RS	road sign	CH	chain link
DK	drop kerb	RSJ	rolled steel joist	CM	corrugated metal panel
EB	earth bank	SP	soil pipe/ air pipe	CP	concrete panel
EP	electricity pole	Sign	sighting	GK	kerbstone white
FB	flower bed	SP	sign post	IM	metal rail
FL	flower bed	SPT	spot height/ ordnance	IW	metal rail on wooden post
FH	fire hydrant/ water level	STV	stay wire	MK	metal mesh
FG	flag stone	TP	telegraph pole	PK	pegging (painted)
GP	gate post	TLT	tall vent pipe	PA	pegging
GR	grid inlet	TRL	traffic light	PL	plastic rail
HR	hazard	TSL	traffic sign	R	recessed nail
HY	fire hydrant	TL	traffic signal	W	wire
HP	high voltage tower (general)	TC	telecom pole	WF	wire fence line
JB	junction box	TV	cable TV	CP	concrete post (e.g.: CP/CL)
LP	lamp post	VP	vent pipe	WP	wooden post (e.g.: WP/SW)
LB	letter box	WM	water meter		

Walls

B brick
C concrete
CB concrete block
ST stone
S stone
W tree-standing wall (e.g.: S/W)
W tree-standing wall (e.g.: SW)

Surface Features

CL cover level
FL floor level
TL trunk level
FWL foul water sewer
SWL surface water sewer
CWL combined water sewer
UNK unknown service
UTL unable to lift
(P) private (post)
(L) traffic light
==== arrow indicates direction of flow

Notes:

Revisions:

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Island Farm,
Bridgend, CF31 3LG

Underground Survey - Sheet 3 of 7

Client	Kier						
Coord Grid	Plane Grid related to National Grid			Level Datum	OS Datum via Active GPS		
Scale	1:200@A0	Date	Oct 2025	Status	Draft	Job No.	KC4865
Surveyed	J. North	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-02

Scale 1:200

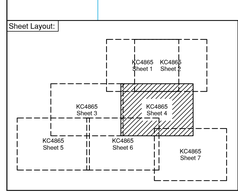
2 0 2 4 6 8 10 20

Distances in metres

N

National Grid

Sheet Layout:



Abbreviations:

BB	Bellaire beacon	MH	main hole	TP	height (of feature)
BL	Bollard (illuminated)	MP	metal pipe	TR	tree (at base of)
BO	bollard	NP	mile post	▲9000	survey control point (unless otherwise stated)
BT	BT/Openreach inspection cover	OHC	overhead		
CCTV	cable television cover	OL	cable/line		
CH	chimney stack	PB	loading bay		
DC	drainage channel	PC	reflector post		
DI	drainage inlet	PO	road sign		
EB	edge beam	RG	rodent station		
EP	electricity pole	SAP	sign		
FB	flower bed	SIG	signal		
FG	flower pot	SP	stone pitching slabs		
FH	fire hydrant (at level	SW	stop valve		
FJ	flag staff	TC	traffic cone		
GP	gas valve	TP	soft verge plate		
GT	gantry	TR	threshold step		
HB	handrail	TS	traffic sign		
IC	ice gratent	UP	unidentified pole		
IL	inspection cover (general)	VP	vent pipe		
JB	junction box	WP	concrete post (e.g. GP/EL)		
LP	lamp post	WW	wooden post (e.g. WP/SW)		

BRK	brick	MA	manhole
C	concrete	MH	manhole
CB	concrete block	MK	marker
G	gabion baskets	S	stone
RW	retaining wall (e.g.: S/RW)	W	tree-shielding wall (e.g.: SW)

Ordnance Features

CL	Cut level
D	Dual depth
DL	Dual level
FW	Foul water sewer
MW	Storm water sewer
CMS	combined water sewer
UNK	Unknown use pipeline
UCL	Unable to lift
dia	diameter (mm)
⊕	Flow direction
⊕	cross arrow indicates direction of flow

Notes:

Revisions:

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Island Farm, Bridgend, CF31 3LG

Underground Survey - Sheet 4 of 7

Client: Kier

Coord Grid	Plane Grid related to National Grid			Level Datum	OS Datum via Active GPS		
Scale	1:200@A0	Date	Oct 2025	Status	Draft	Job No.	KC4865
Surveyed	J. North	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-02

Scale 1:200

2 0 2 4 6 8 10 20

Distances in metres

N

National Grid

289600E 289650E 289700E 289750E 289800E

178200N 178150N 178100N

crop field

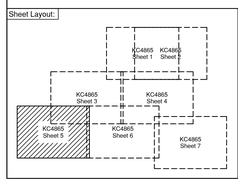
dense foliage

pylon

nomadex route

multi-bale

Sheet Layout:



Abbreviations:

BH	Bellmo Hexicon	MH	man hole	H	height (of feature)	Walls	
BI	Bollard (Illuminated)	NP	name plate	—	fence (unless otherwise stated)	B brick	
BO	Bollard	OP	mile post	▲BM22	survey control point	C concrete	
CL	telecom. inspection cover	OHC	overhead cable/wire			CB concrete block	
CATV	cable television cover	PC	parking	Cars		ST stone	
CP	control point / survey	PO	reading eye	C	car	W tree-standing wall (e.g.: S/RW)	
CO	drainage channel	RC	road cat's eye	CC	closed door c/w	W tree-standing wall (e.g.: SW)	
DR	drop kerb	RSJ	rolled steel joist	CH	chain link		
EP	electricity pole	RSP	rolled steel plate	CR	corrugated metal panel	Cultivation Features	
FP	flag pole	SA	sapling	CW	corrugated wire	CL cover level	
FB	flower bed	SP	sign post	DH	dropper arm	F fruit bush	
FL	flower pot	SPT	spot height	DR	metal rail	FW fruit wall trained	
FU	footway fixture level	SPD	spot height on wooden stake	DW	metal rail on wooden wall	HG hedge grown	
GP	flag stick	STV	stay wire	GR	metal mesh	HT hedge trimmed	
GP	gate post	SW	stop valve	GW	metal mesh mounted	LW coniferous hedge	
GR	grid	TAP	tap (water)	PA	palisading	UTL unable to lift	
HP	hydrant	TH	threshold step	PL	palisading	(L: width of plant)	
HT	fire hydrant	TR	tripodal tree	R	recycler unit	(L: width of plant)	
JB	junction box (general)	TL	traffic light	W	wire	→one arrow indicates direction of flow.	
JB	junction box	TS	traffic light stone	WP	wooden post		
LP	lamp post	TV	cable TV	WP	concrete post (e.g.: CP/CL)		
LP	lamp post	W	west elev	WP	wooden post (e.g.: WP/SW)		
		WM	water meter				

Notes:

Revisions:

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Island Farm, Bridgend, CF31 3LG

Underground Survey - Sheet 5 of 7

Client: Kier

Coord Grid	Plane Grid related to National Grid			Level Datum	OS Datum via Active GPS		
Scale	1:200@A0	Date	Oct 2025	Status	Draft	Job No.	KC4865
Surveyed	J. North	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-02

Scale 1:200

Distances in metres

National Grid

crop field

dense foliage

dense foliage with many trees

dense foliage with many small trees

grass

asphalt

water tank

UG in dense foliage follows shape of carpentry barn

drainage channel

septic tank

soakaway

A415

overhead cables

multi-bole

tree

hedge

PO

EP

RG

UP

SP

WM

GM

TP

BH

trial pit

178200N

178150N

178100N

280100E

280150E

280200E

280250E

280300E

Sheet Layout:

KC4865 Sheet 1

KC4865 Sheet 2

KC4865 Sheet 3

KC4865 Sheet 4

KC4865 Sheet 5

KC4865 Sheet 6

KC4865 Sheet 7

Abbreviations:

BB Bellby beacon
BH Bollard (Illuminated)
BL Bollard
CP Cathodic protection test point
CPO Catch pit/gully
CTV Cable television
DP drip tank
EP electricity pole
ES earth rod
FB flood light
FFL finished floor level
GM gas meter
GP gate post
GV gas valve
HP hydrant
HV fire hydrant
IC inspection cover (general)
LP lamp post
MH meter housing
MK marker post
NB name board
OHC overhead cables/wire post
OP outfall pipe
RE railway line
RG rodding eye
RP road post
RSJ rolled steel joist
SWP rain water pipe
SIGN sign post
SPG stone pointing slabs
SV stop valve
TP telephone pole
TRAF traffic light
TV television
UP utility pole
WM water meter
WT height (of feature)
OHL overhead line (with pylons)
A1000 survey control point
BRICK
B brick
CB concrete block
CI cast iron
G galvanised
M metal
RW retaining wall (e.g.: S/RW)
TW free-standing wall (e.g.: TW)
Surface Features
BC bottom of chamber
D invert depth
FW foul water sewer
SW storm water sewer
CW combined water sewer
UNK cable to determine
(dia) diameter (mm)
SL soffit level
arrow indicates direction of flow

Notes:

Revisions:

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AZIMUTH LAND SURVEYS LIMITED
28 CARDIFF ROAD NEWPORT NP20 2ED UK
enquiries@azimuthgroup.co.uk www.azimuthlandsurveys.co.uk
Tel: 01633 263 575

- Topographical Surveys
- Engineering Surveys
- Measured Building Surveys
- Boundary Surveys
- OS Mapping and Data Centre
- Underground Utility Surveys

Island Farm, Bridgend, CF31 3LG

Underground Survey - Sheet 6 of 7

Client: Kier

Coord Grid	Plane Grid related to National Grid			Level Datum	OS Datum via Active GPS		
Scale	1:200@A0	Date	Oct 2025	Status	Draft	Job No.	KC4865
Surveyed	J. North	Drawn	L. Rajnohova	Checked	R. Williams	Dwg. No.	KC4865-02

Scale 1:200

2 0 2 4 6 8 10 20

Distances in metres

N

National Grid

283550E 284050E 284550E 285050E

178150N 178100N 178050N

UGL in dense foliage
rubber shape of retaining boye

drainage channel

raspberry

hedge

axis

drainage channel

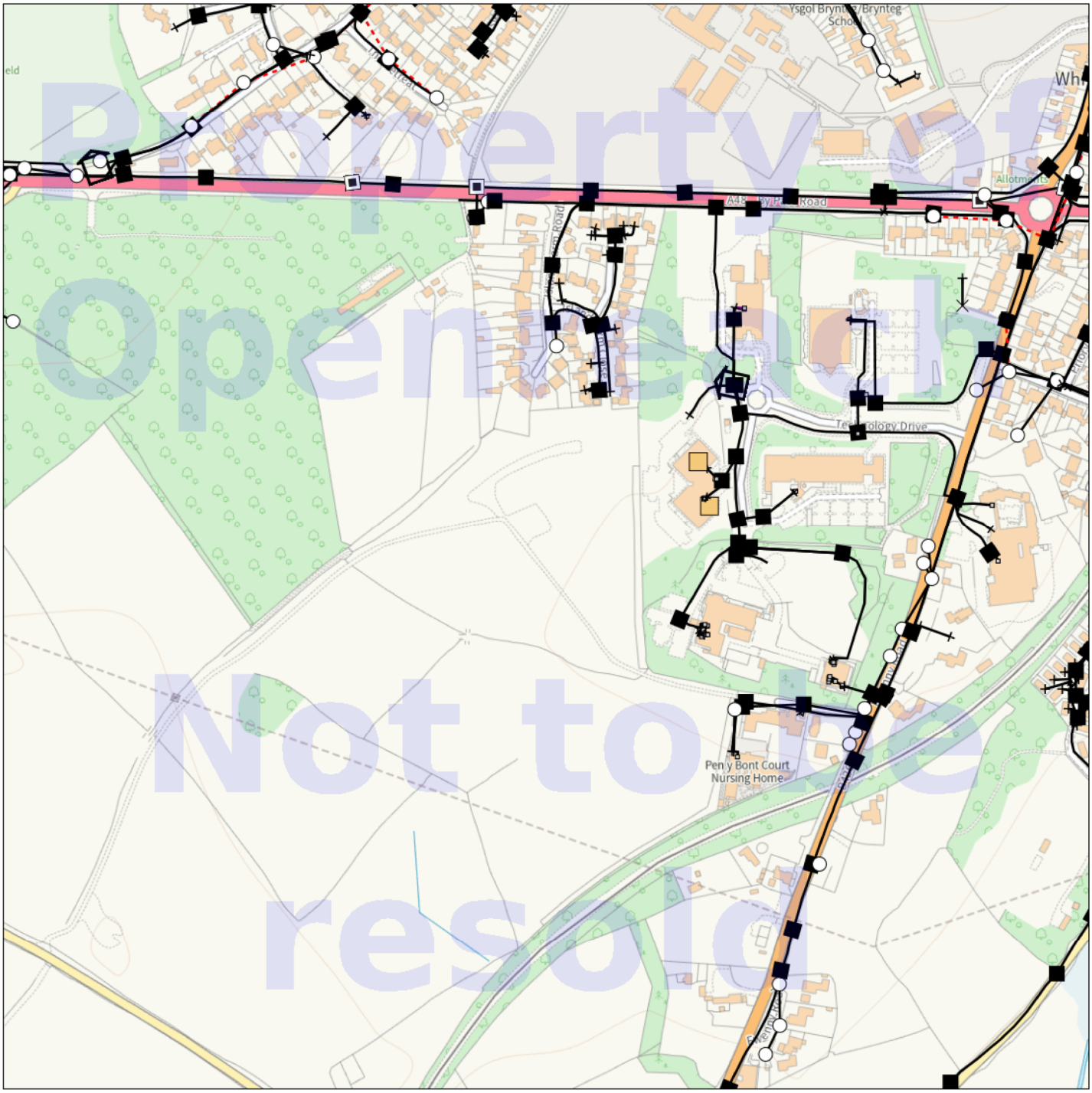
axis

drainage channel

axis

drainage channel

Maps on Demand Plant Information Reply



Property of Openreach
Not to be resold

IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made newar to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

Accidents happen

If you do damage any Openreach equipment please let us know by calling 0800 023 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling		Built	
Duct Tee		Planned	
Building		Inferred	
Kiosk	K	Duct	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	In Place	Pending Remove	Not In Use
Power Cable				
Power Duct				N/A

BT Ref : OKC11249Z
Map Reference : (centre) SS9019478243
Easting/Northing : (centre) 290194,178243
Scale : 1:1000
Issued : 22/07/2025 11:24:11

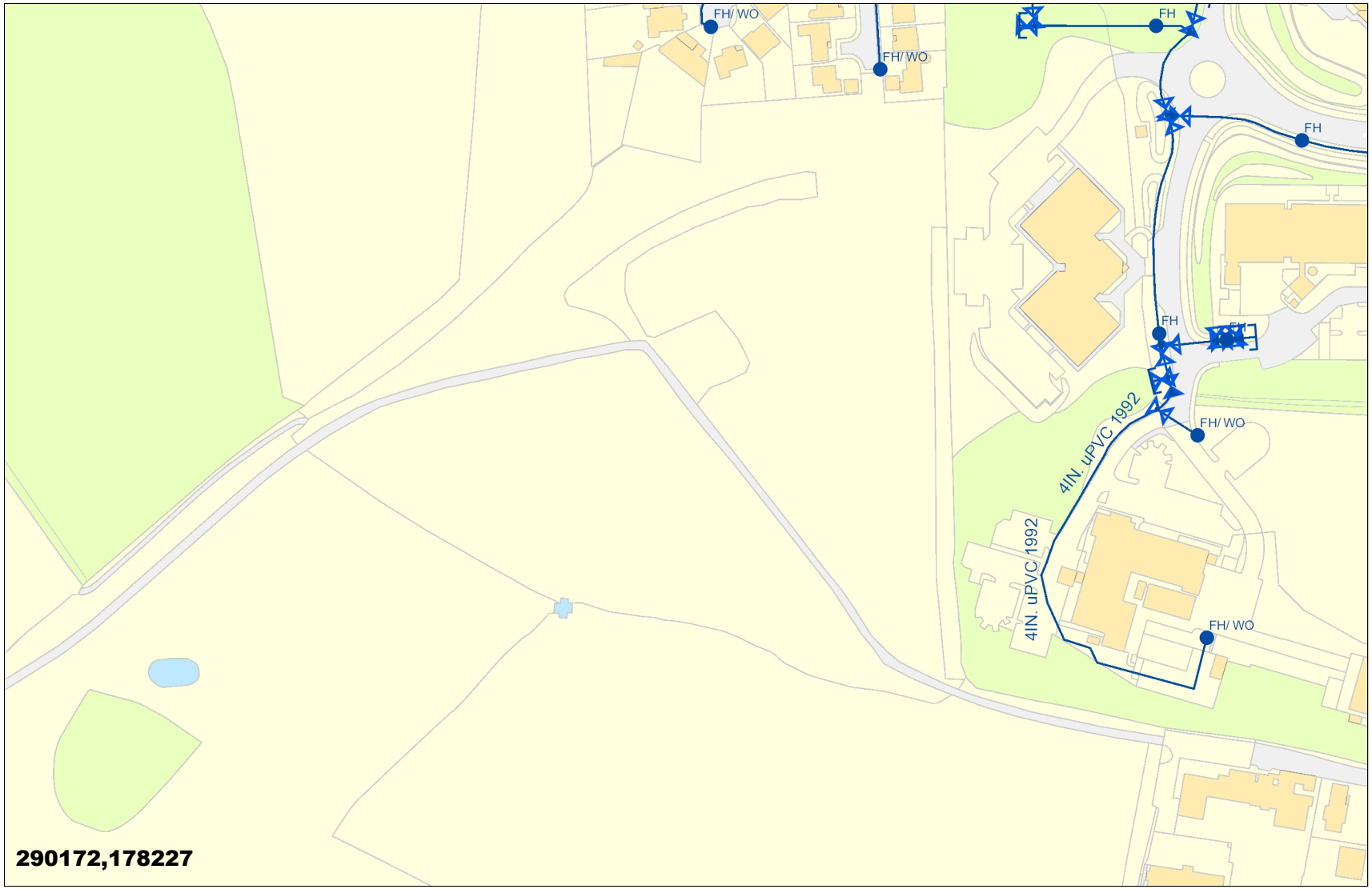
WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Dŵr Cymru
Welsh Water

Heronsbridge

22/07/2025

Scale: 1: 2500



LEGEND

Clean Water

- Sluice Val
- Air Val, SINGLE
- Tap
- Pressure Reducing Valve
- Meter
- BULK Meter
- FH
- Cap
- Existing Main
- NON COMPANY

Sewerage External

- Foul
- Surface Water
- Combined
- Rising Main
- Private
- Treatment Works
- Pumping Station
- Special Purpose
- Unknown End
- Change, Combined Overflow
- Outfall, FOUL
- Lamp Hole, Foul
- Private Sewer Transfer
- Lateral Drain
- Inspection Chamber

Dwr Cymru Cyfyngedig ('the Company') gives this information as to the position of its underground apparatus by way of general guidance only and on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon In the event of excavations or other works made in the vicinity of the company's apparatus and any onus of locating the apparatus before carrying out any excavations rests entirely on you. The information which is supplied hereby the company, is done so in accordance with statutory requirements of sections 198 and 199 f the water industry Act 1991 based upon the best Information available and in particular, but without prejudice to the generality of the foregoing, it should be noted that the records that are available to the Company may not disclosure the existence of a drain sewer or disposal main laid before 1 September 1989, or if they do, the particulars thereof including their position underground may not be accurate. It must be understood that the furnishing of this information us entirely without prejudice to the provision of the New Roads and Street Works Act 1991 and the company's right to be compensated for any damage to its apparatus.

EXACT LOCATION OF ALL APPARATUS TO BE DETERMINED ON SITE

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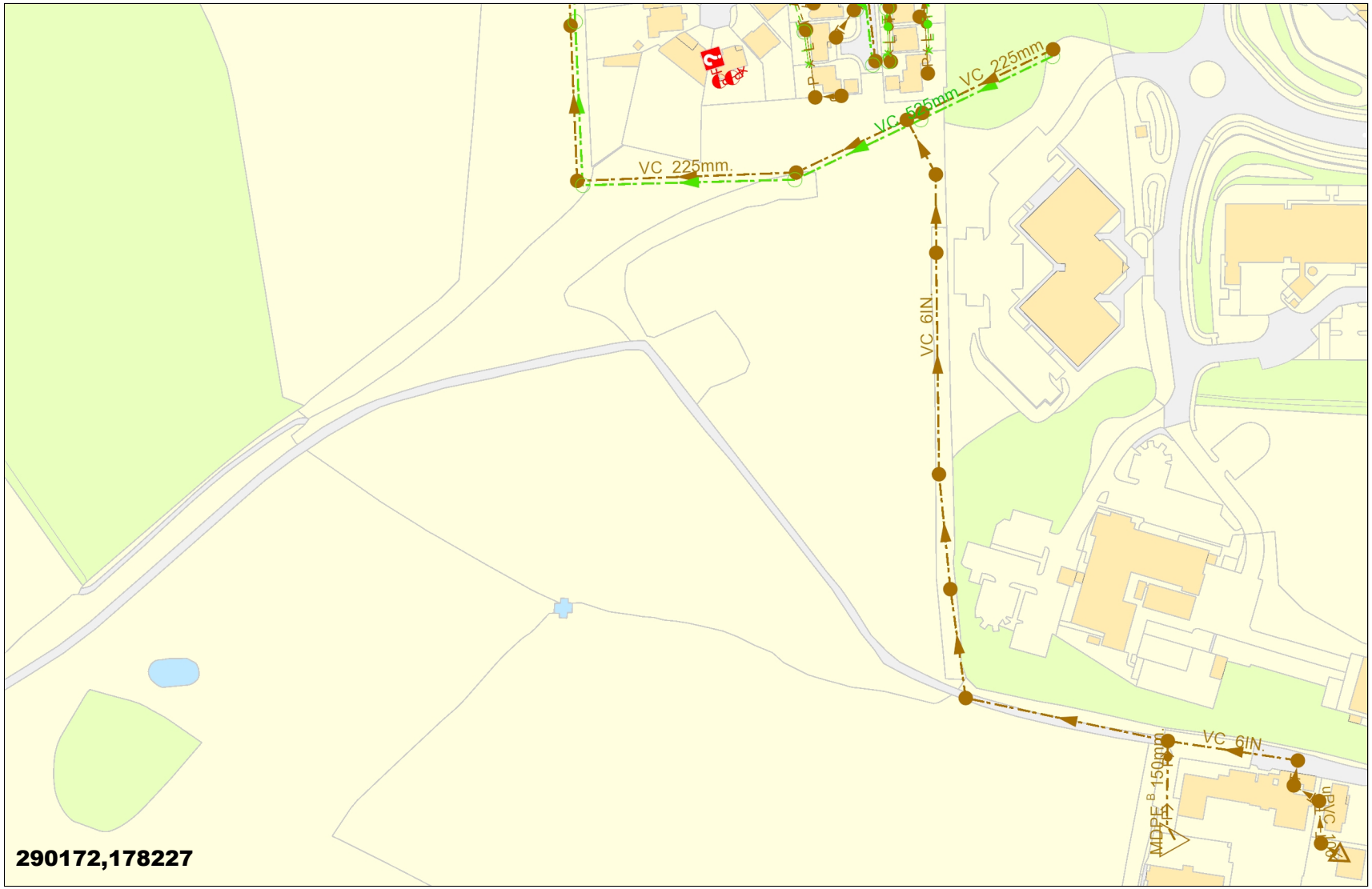
Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be Asbestos Cement (AC) or Pitch Fibre (PF). It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation

Dŵr Cymru
Welsh Water

Heronsbridge

22/07/2025

Scale: 1: 2500



LEGEND

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- Meter
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- Cap
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- Foul
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Overview Map of Worksite

1

2

Contact Us

Mapping Enquiries: 0121 623 9780

General Enquiries: 0800 096 3080

Date Requested: 22/07/2025
Job Reference: 38078077
Site Location: 290183 178132
Requested by:
Mr Rob Wood
Your Scheme/Reference:
Heronsbridge

Scale: 1:2563 (When plotted at A3)

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed. Services or recent additions to the network may not be shown.
- Cables, overhead lines & substations owned by other electricity network owners or private companies may be present and may not be shown.
- You should always verify exact locations of cables using a cable locator and by careful use of hand tools in accordance with HSE guidance note HSG47.
- When working within 10m of any overhead electric line you should follow the requirements of HSE Guidance Note GS6.
- For further advice on working near our electricity cables or lines, call our Contact Centre on 0800 096 3080.
- Advice should be sought from the National Grid Electricity Distribution Contact Centre for any work that is to take place in proximity to 66kV or 132kV underground cables and 66kV 132kV overhead lines – 0800 096 3080

Link Box

Site Location

Line/Area

Overhead Line

- PL
- Service
- LV
- HV (11kV)
- HV (33kV)
- HV (66kV)
- HV (132kV)

Underground Cable

National Grid Telecoms

S — S

Private Cables

PME Earth

Underground Earth

Pilot Cables

P — P

Pole Mounted Transformer

Ground Mounted Transformer

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Report damage immediately KEEP EVERYONE AWAY FROM THE AREA
0800 6783 105

nationalgrid Electricity Distribution

Email: NGED.MapResponse@NationalGrid.co.uk

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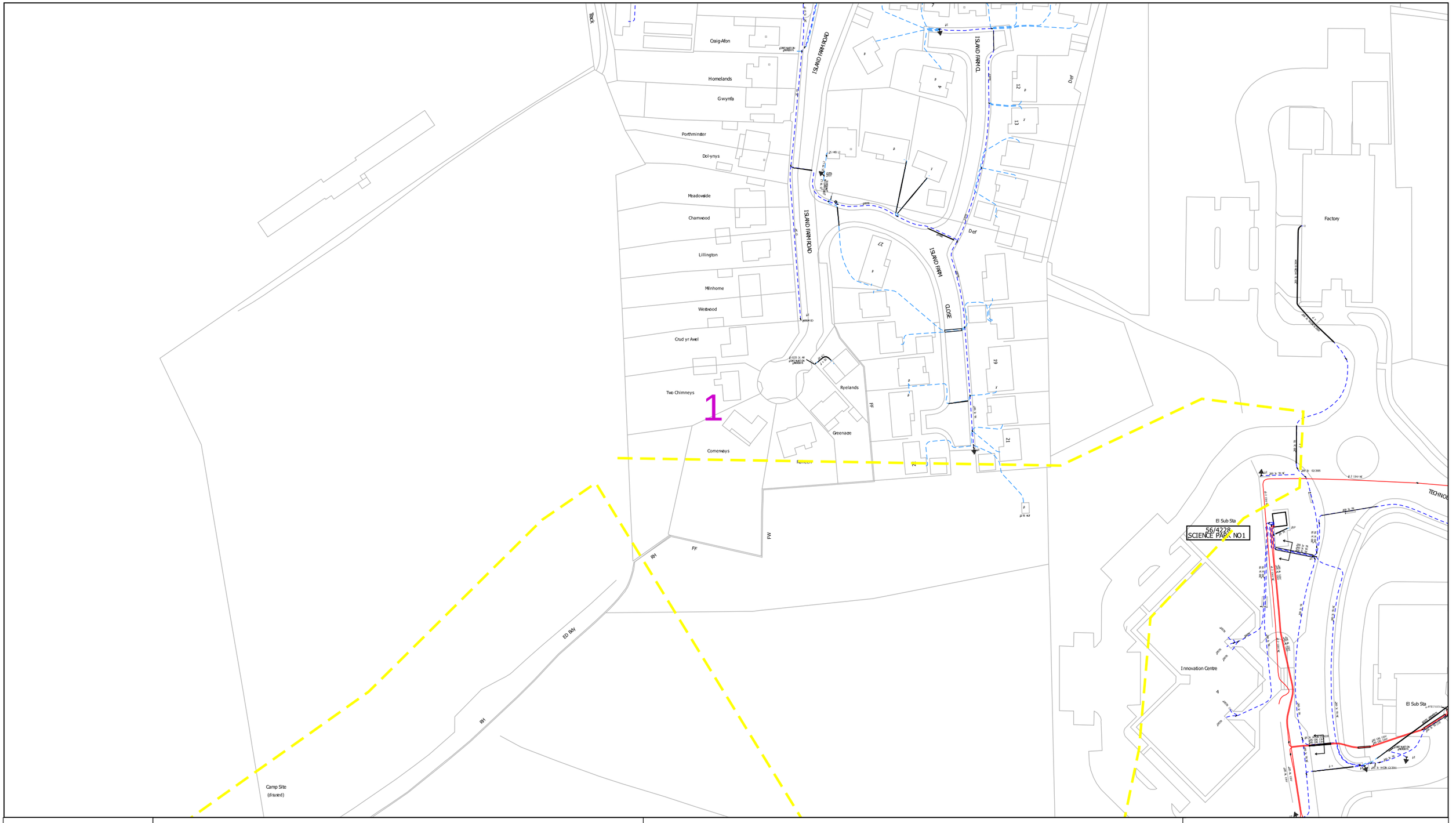

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0 100m

Link Box

Site Location
Line/Area

Overhead Line
PL
Service
LV
HV (11kV)
HV (33kV)
HV (66kV)
HV (132kV)

Underground Cable

National Grid Telecoms
S S

Private Cables

PME Earth

Underground Earth

Pilot Cables
P P

Pole Mounted Transformer

Ground Mounted Transformer

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0800 6783 105

nationalgrid Electricity Distribution

Email: NGED.MapResponse@NationalGrid.co.uk

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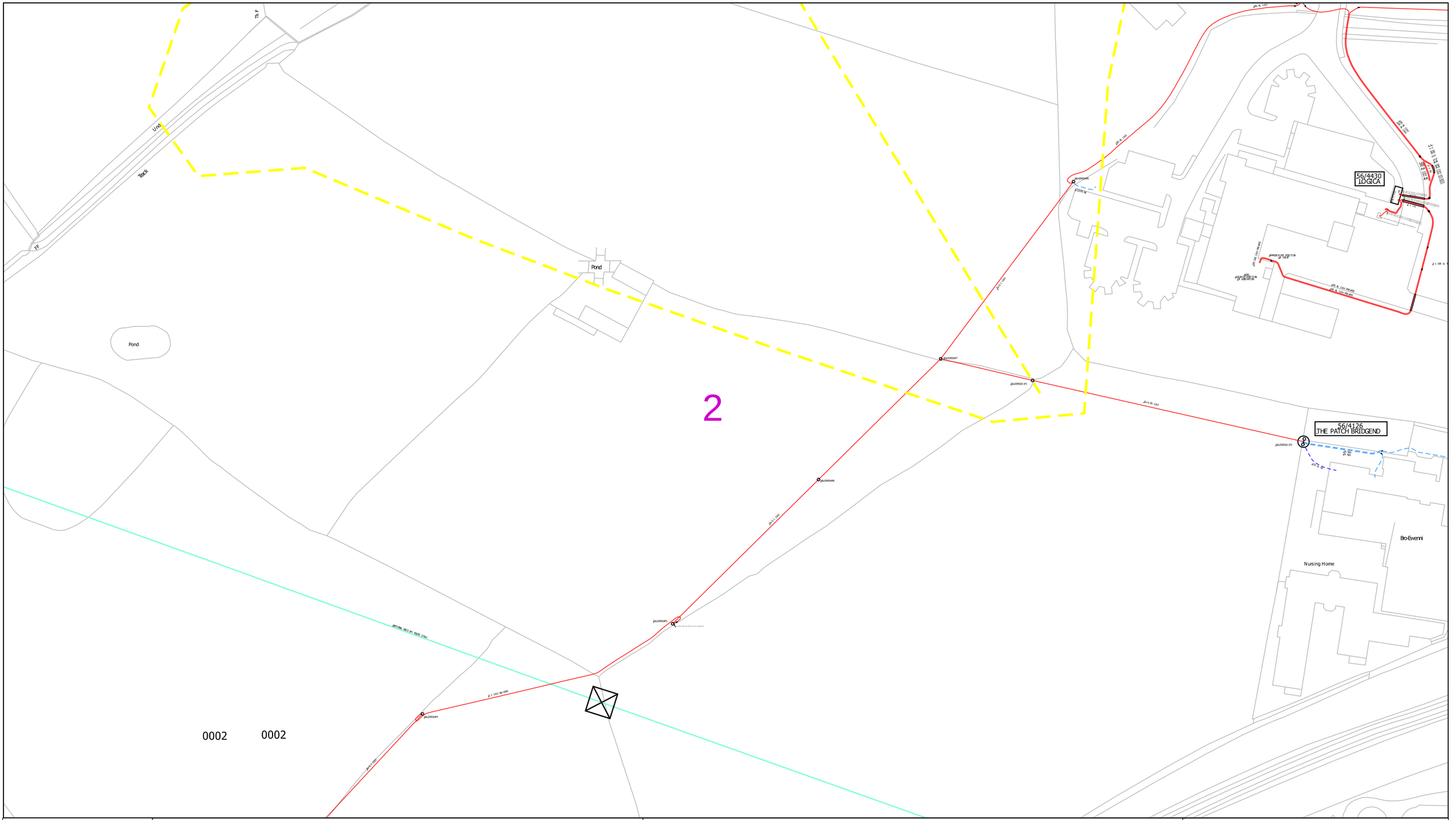

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0 100m

Link Box

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Line/Area

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PDF designed for A3 colour print only with no page scaling

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nationalgrid Electricity Distribution

Email: NGED.MapResponse@NationalGrid.co.uk

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National Grid House
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

Electricity Emergency Number:
0800 40 40 90*
*Available 24 hours, 7 days/week.
Calls may be recorded and monitored.
www.nationalgrid.com

Asset Protection
National Grid Electricity Transmission
Warwick
Email: assetprotection@nationalgrid.com

Our Ref: 38078077 Heronsbridge

Tuesday, 22 July 2025

Rob Wood
Cambria Consulting Ltd Cambria House

SGM
CF64 1TR

National Grid Electricity – No Assets Affected

Dear Sir/ Madam,

An assessment has been carried out with respect to NGET apparatus and the proposed work location. Based on the search area entered in the LSBUD system for assessment the search area has been found to not affect any NGET apparatus.

Please note this response and any attached map(s) are valid for 28 days

Yours sincerely

Asset Protection Team

National Grid is a trading name for:
National Grid Electricity Transmission plc
Registered Office: 1-3 Strand, London WC2N 5EH
Registered in England and Wales, No 2366977

Your Responsibilities and Obligations

It is your responsibility to ensure that the information you have submitted is accurate and that all relevant documents including links are provided to all persons (either direct labour or contractors) working for you near National Grid Electricity Transmission plc's apparatus, as legally required including under the Construction (Design and Management) Regulations 2015.

The assessment solely relates to the physical apparatus of National Grid Electricity Transmission plc (NGET)
It does **NOT** cover:

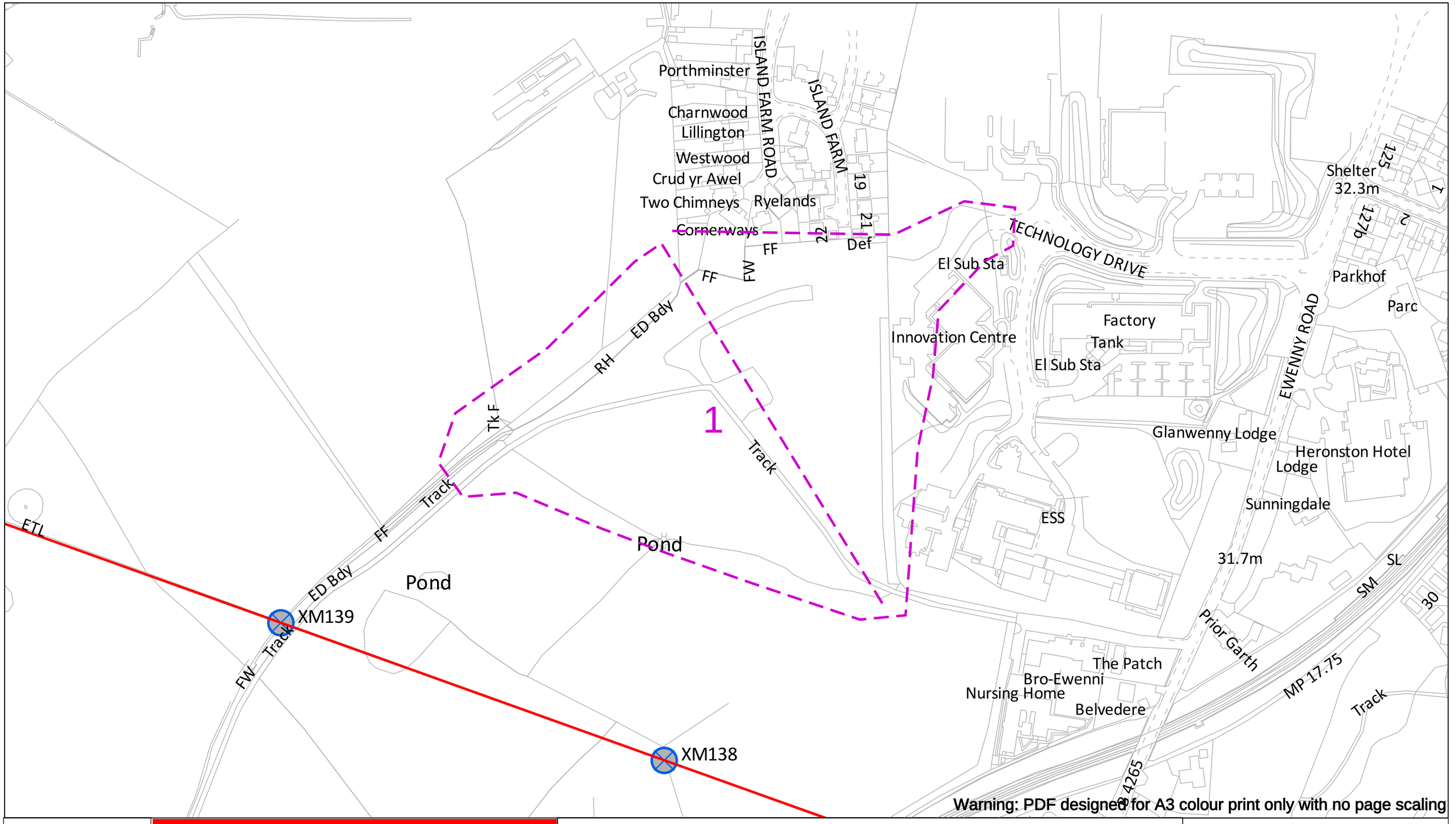
- Apparatus owned by other people or organisations, e.g., Cadent, other gas distribution operators, local electricity companies, other utilities, landowners etc

- Apparatus owned by National Grid Gas plc.

- NGET's legal rights and interests (such as those contained in easements or wayleaves) in or concerning the land, which restrict activity in proximity to NGET's assets in private land. You must obtain details of any such restrictions from the landowner in the first instance and/or from HM Land Registry and/or you should seek legal advice. If in doubt, contact Asset Protection.

It is **YOUR** responsibility to consider whether any of the items or factors listed above may be present or relevant and if they could be affected by your proposed activities.

NGET or its agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability, which is prohibited by law, nor does it supersede the express terms of any related agreements.



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Date Requested: 22/07/2025
Job Reference: 38078077
Site Location: 290183 178132
Requested by:
Mr Rob Wood
Your Scheme/Reference:
Heronsbridge

Scale: 1:2500 (When plotted at A3)

EXTREME CAUTION - HIGH VOLTAGE
RISK OF DEATH OR SERIOUS INJURY

IMPORTANT NOTICES

This plan shows those pipes owned by National Grid Electricity Transmission plc in its role as a Licensed Electricity Transporter (ET). Electricity cables owned by other ETs, or otherwise privately owned, may be present in this area. Information with regards to such cables should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Ancillary equipment such as cooling systems and communication cables are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Electricity Transmission plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of cables and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near electricity apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

National Grid Electricity Emergency Number: 0800 40 40 90
Available 24 hours, 7 days/week. Calls may be recorded and monitored

Warning: PDF designed for colour print only with no page scaling

0 200m

Dig Sites Area: Line:

Underground Cables
Overhead Lines
Fibre Cables

nationalgrid

NationalGrid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

AssetProtection@NationalGrid.com

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ENQUIRY SUMMARY

Received Date
22/07/2025 10:54

Work Start Date
23/07/2025

Your Reference
Heronsbridge

Location
Centre Point: 290183 178132
X Extent:
Y Extent:
Postcode: CF313NA

Map Options
Paper Size: A3
Orientation: LANDSCAPE
Scale: 1:2500
Real World Extents: 406m x 294m

Enquirer Details
Organisation Name: Cambria Consulting Ltd
Contact Name: Rob Wood
Email Address: r.wood@cambria.co.uk
Telephone: 02920093333
Address: Cambria Consulting Ltd Cambria House, , SGM, CF64 1TR

Enquiry Type
Planned Works

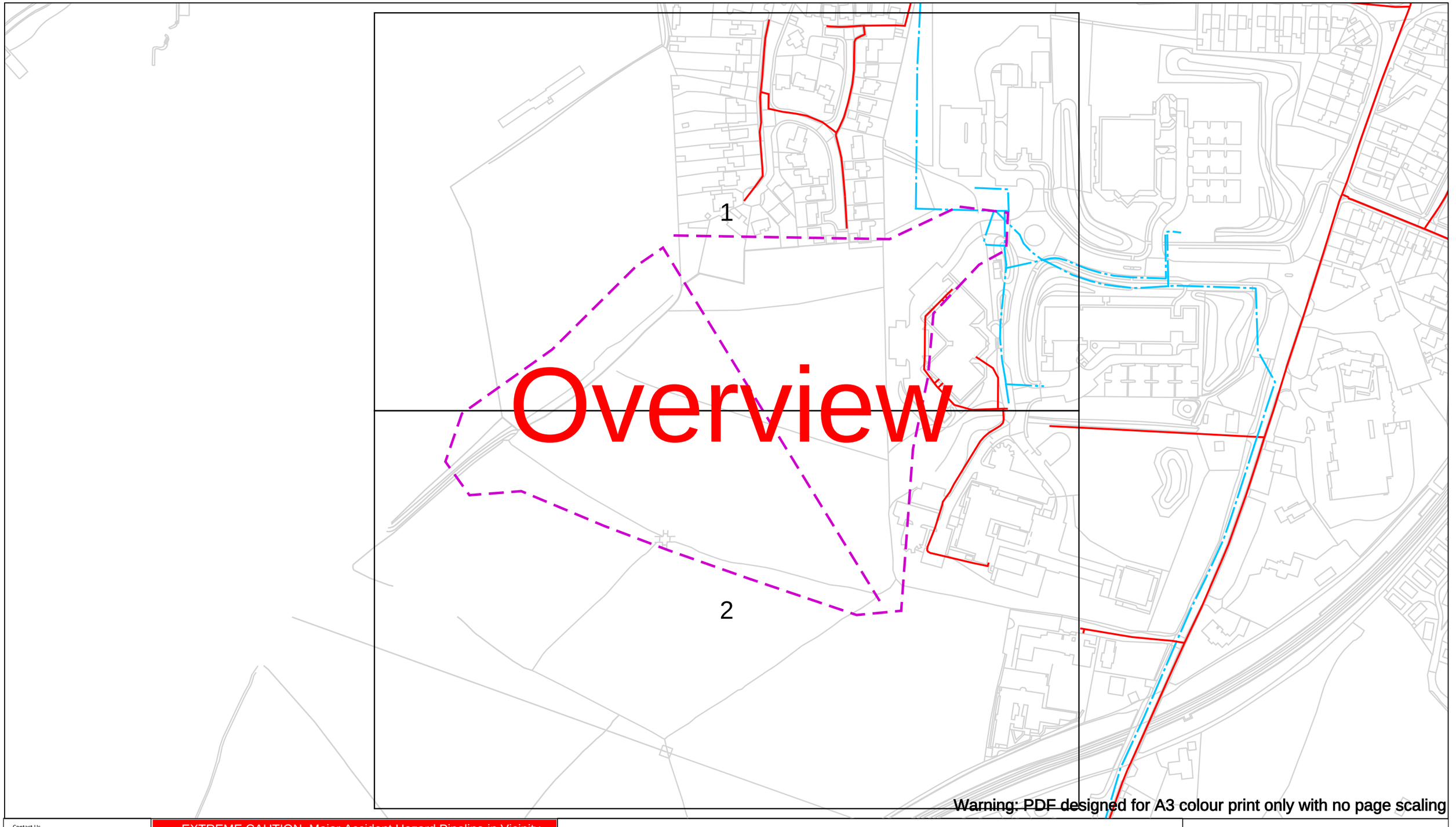
Activity Type
Planning Applications

Work Types
Multiple properties

Notes/Works Description (if supplied)
Utility Search

Site Contact Name (if supplied)
Robert Wood

Site Contact Number (if supplied)
02920093333



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Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/07/2025
Job Reference: 38078077
Site Location: 290183 178132
Requested by:
Mr Rob Wood
Your Scheme/Reference:
Heronsbridge

Scale: 1:2563 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

Dig Sites

Area: Line:

Low Pressure (LP) 21mbar – 75mbar
Medium Pressure (MP) 350mbar – 2bar
Intermediate Pressure (IP) 2bar – 7bar
High Pressure (HP) >7bar

Line/Fire Valve
Governor Station
Change of Diameter
End Cap
Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the **Gas Emergency Service** on **0800 111 999.**

Dial before you dig

Dial
Call **029 2027 8912** before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

We need 10 days' notice

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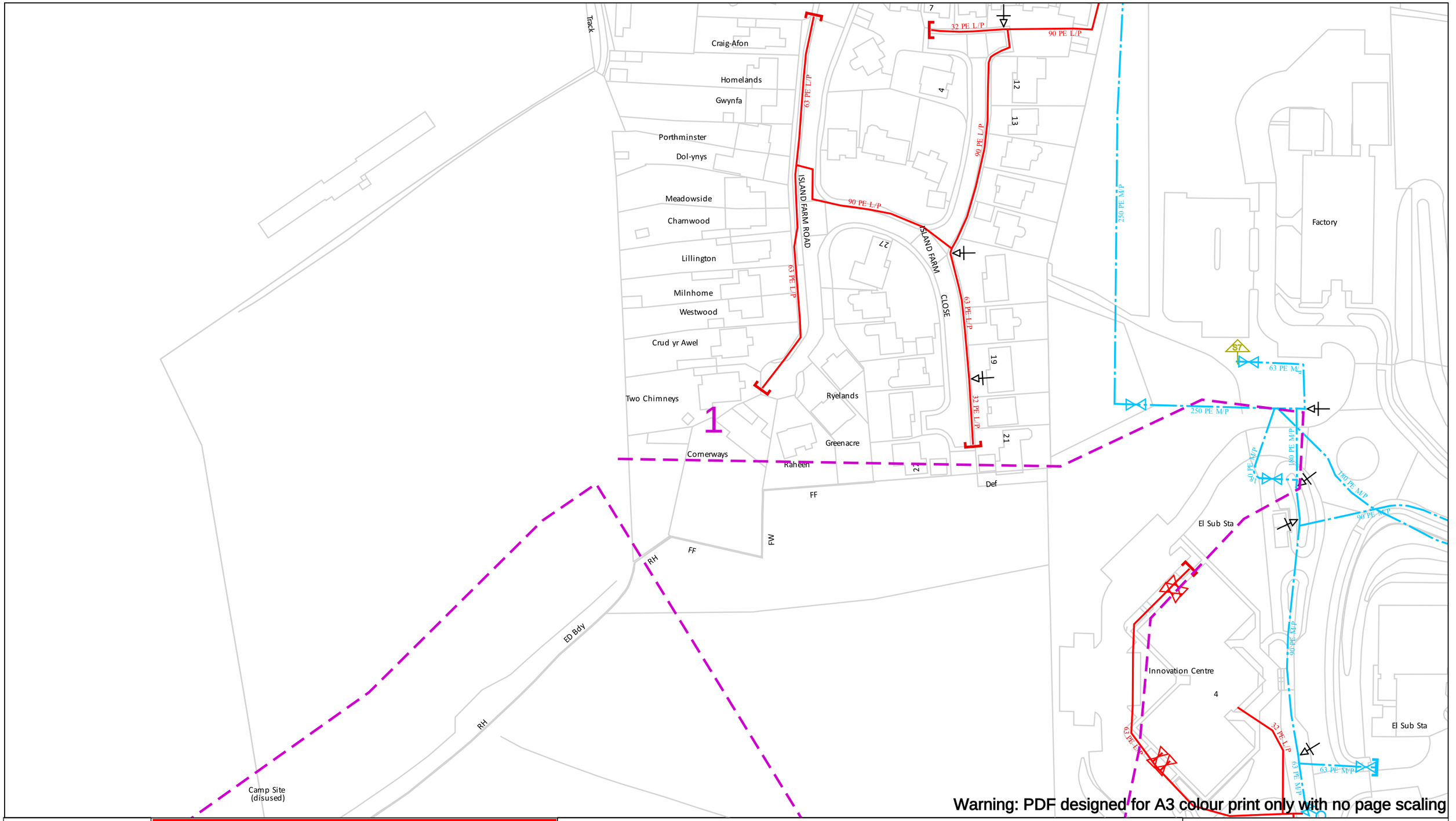

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General Enquiries: 0800 912 2999

Date Requested: 22/07/2025
Job Reference: 38078077
Site Location: 290183 178132
Requested by:
Mr Rob Wood
Your Scheme/Reference:
Heronsbridge

Scale: 1:1250 (When plotted at A3)

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100m

Dig Sites

Area: Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

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Done your research? Now you can dig safely.

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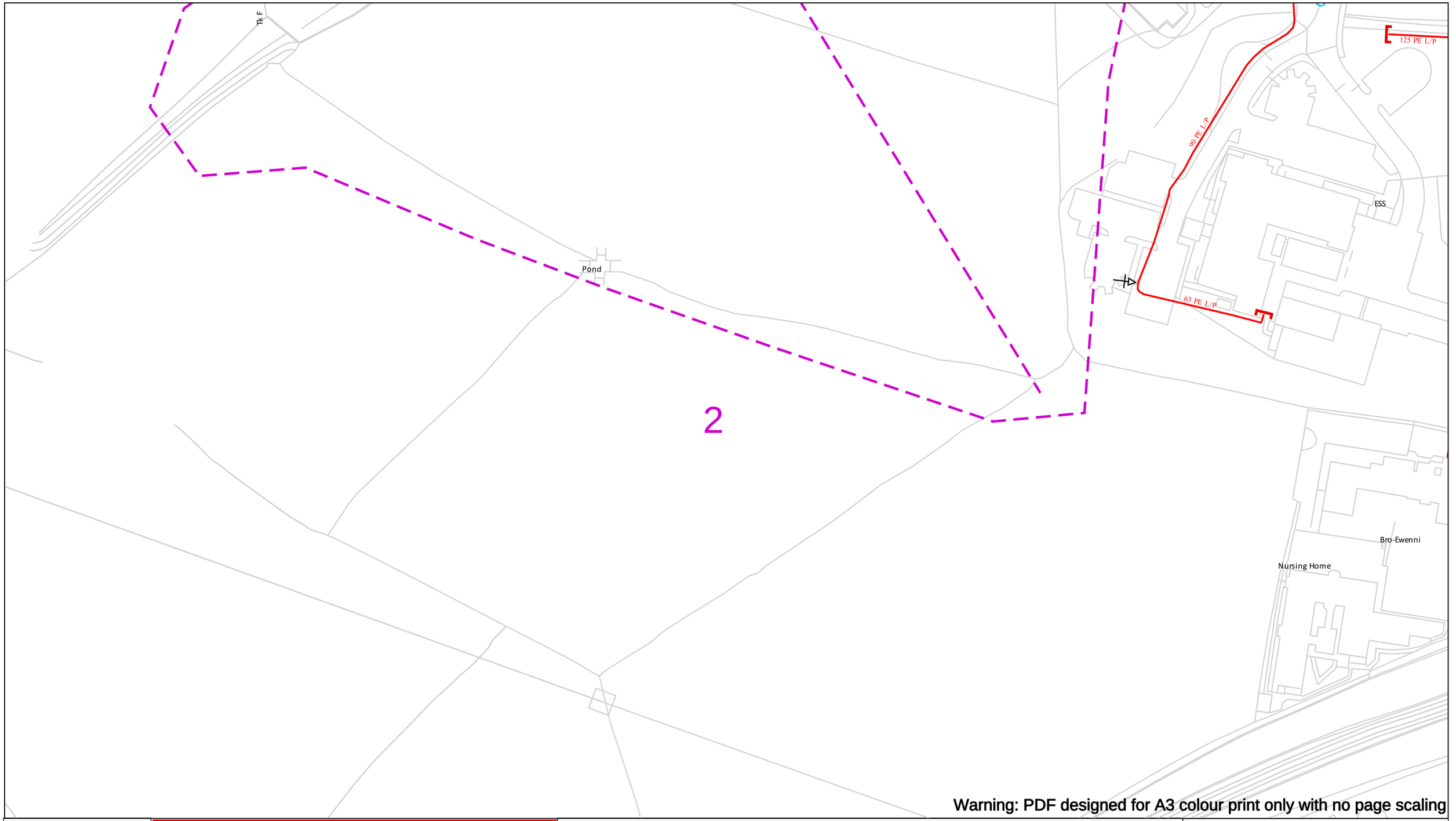

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Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/07/2025
Job Reference: 38078077
Site Location: 290183 178132
Requested by:
Mr Rob Wood
Your Scheme/Reference:
Heronsbridge

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites — Area: Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

Smell gas? Call the Gas Emergency Service on 0800 111 999.

Dial before you dig

Dial Call 029 2027 8912 before you start work.

Investigate Before you dig, make sure you know what's below.

Go ahead Done your research? Now you can dig safely.

We need 10 days' notice

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Enquiry Confirmation

LSBUD Ref: 38078077

Date of enquiry: 22/07/2025
Time of enquiry: 11:52

Enquirer

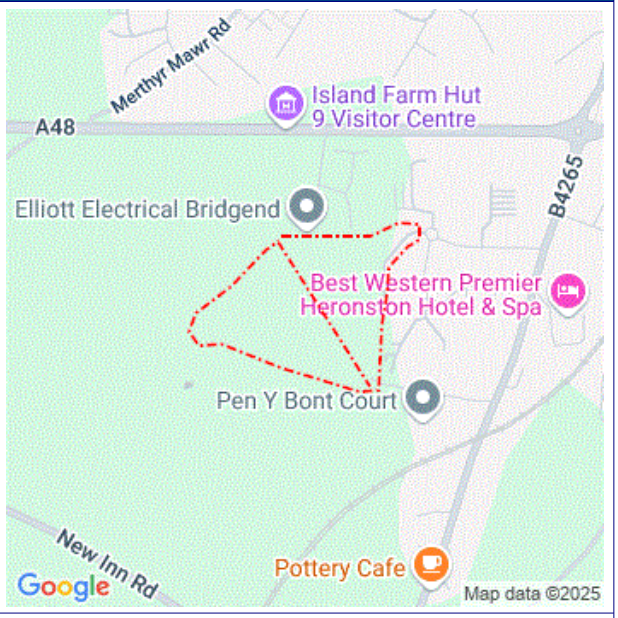
Name	Mr Rob Wood	Phone	02920093333
Company	Cambria Consulting Ltd	Mobile	Not Supplied
Address	Cambria Consulting Ltd Cambria House Penarth South Glamorgan CF64 1TR		
Email	r.wood@cambria.co.uk		

Enquiry Details

Enquiry type	Planned Works
Work category	Planning Applications
Work type	Multiple properties
Work type buffer*	75 metres
Start date	23/07/2025
End date	22/07/2027
Scheme/Reference	Heronsbridge
Search location	XY= 290194, 178243
Confirmed location	290183 178132
Site size	0 metres square
Site Contact Name	Robert Wood
Site Phone No.	02920093333
Description of Works	Utility Search

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.

Site Map



Please note that the above map only displays the location of the proposed work site and will not display any of the Members' pipes and cables. It is imperative that this area accurately reflects the proposed work site.

Affected LSBUD members

(LSBUD Members who have assets registered on LSBUD within the vicinity of your search area.)

Do not proceed until all Members listed below have confirmed that your works can continue.

Asset Owner	Phone/Email	Emergency Only	Status
National Grid Electricity Distribution	08000963080	08006783105	Await response
National Grid Electricity Transmission	08000014282	0800404090	Await response
Wales and West Utilities	02920278912	0800111999	Await response

Status explanation

Await Response means that the asset owner will contact you. This is typically by sending the plan response but they may ask for further information before being able to do so, particularly if any payments or authorisations are required.

Email Additional Info means that the asset owner needs further information about your works to assess your enquiry before providing a response. Please provide any details you have available including plans, method statements etc. if available.

Enquiry Confirmation
LSBUD Ref: 38078077

Date of enquiry: 22/07/2025
Time of enquiry: 11:52

Important notices

It is very important that you correctly understand what the service does and the procedures in order for you to work safely. Please refer to the LSBUD Support Page (www.lsbud.co.uk/linesearchbeforeudig-support) for further guidance.
This information includes how to provide additional information to the LSBUD Members who request it to provide a response to your enquiry.
Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date and time of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LinesearchbeforeUdig (LSBUD) accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.
Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.lsbud.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

List of not affected LSBUD members
(LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area.)

Advanced Electricity Networks	Air Products PLC	AllPoints Fibre
Angus Energy	AWE Pipeline	B & D Energy Limited
Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)	Box Broadband
BP Exploration Operating Company Limited	BPA	Burwell 11 Solar Limited
Cadent Gas	Cambridge Water	Cambridgeshire County Council Climate Change and Energy Services
CATS Pipeline c/o Wood Group PSN	Cemex	Centrica Storage Ltd
CNG Services Ltd	Concept Solutions People Ltd	ConocoPhillips (UK) Teesside Operator Ltd
D.S.Smith	Diamond Transmission Corporation	DIO (MOD Live Pipelines)
Drax Power Limited	Eden Estuary Energy Limited	EDF Energy Renewables Ltd
EET Fuels	EirGrid	Eleclink Limited
Electricity North West Limited	Energy Assets Networks	ENI & Himor c/o Penspen Ltd
EnQuest Heather Ltd	EP Langage Limited	ESB CCGT Power station (Carrington Gas Pipeline)
ESP Utilities Group	Esso Petroleum Company Limited	euNetworks Fiber UK Ltd
EXA Infrastructure	Exolum Pipeline System	Fulcrum Electricity Assets Limited
Fulcrum Pipelines Limited	G.Network Communication Ltd c/o JSM Group Ltd	Gamma
Gas Networks Ireland (UK)	Gateshead Energy Company	Gigaclear Ltd
Greenlink Interconnector Ltd	Harbour Energy	Heathrow Airport LTD
Humbly Grove Energy	IGas Energy	Impala Terminals Infrastructure Ltd
INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)	INOVYN ChlorVinyls Limited
INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)	Kensa Utilities
Last Mile	Liverpool City Region Connect	Mainline Pipelines Limited
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	MUA Group Limited	Mutual Energy
National Gas Transmission	National Grid Ventures	Neos Networks
Northern Gas Networks Limited	Northumbrian Water Group	NPower CHP Pipelines
NTT Global Data Centers EMEA UK Ltd	NYnet Ltd	Ogi
Oikos Storage Limited	Ørsted	Palm Paper Ltd
Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos	Phillips 66
Portsmouth Water	Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)
RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals	SAS Utility Services Ltd
Scottish and Southern Electricity Networks	Scottish Power Generation	Seabank Power Ltd

Enquiry Confirmation
LSBUD Ref: 38078077

Date of enquiry: 22/07/2025
Time of enquiry: 11:52

SES Water	SGN	Shell
Shell NOP	South Staffs Water	SP Energy Networks
Spring Fibre Limited	Squire Energy Networks	SSE Generation Ltd
SSE Transmission	SSE Utility Solutions Limited	Storengy
Sutton Bridge Power Generation	Tata Communications (c/o JSM Construction Ltd)	TfL – London Underground HV Cables (Road & Track Side Cables)
toob Limited	Total (Colnbrook) c/o Penspen	Total Finaline Pipelines
Transmission Capital	Trojan Energy Limited	UK Power Distribution
UK Power Networks	Uniper UK Ltd	University of Cambridge Granta Backbone Network
Vattenfall	Veolia ES SELCHP Limited	Veolia ES Sheffield Ltd
Virgin Media O2	Voneus Limited	VPI Power Limited
Welsh Power	West of Duddon Sands Transmission Ltd	West Sussex OpenNetwork (Cooperative National Infrastructure)
Westminster City Council	Winnington CHP Ltd	Zayo Group UK Ltd c/o JSM Group Ltd

Non-LSBUD members (Asset owners not registered on LSBUD)
(The following Non-LSBUD Members may have assets in your search area. It is YOUR RESPONSIBILITY to contact them before proceeding.
Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.)

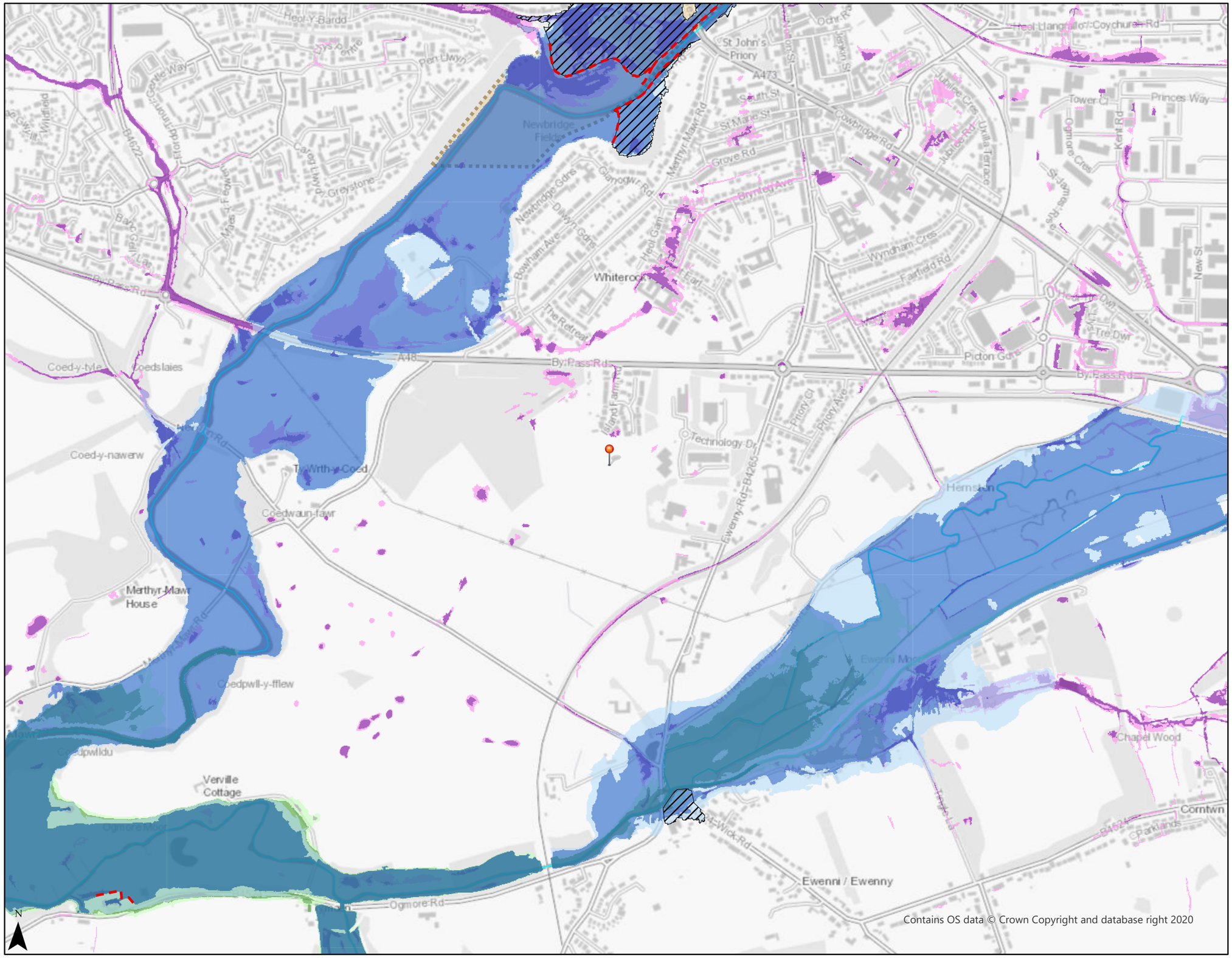
Asset Owner	Preferred contact method	Phone	Status
Bring Energy	nrswa@bringenergy.com	0800 130 3600	Not Notified
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08000232023	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Dwr Cymru Welsh Water	https://contact.dwrcymru.com/en	0800 917 2652	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Logica (c/- McNicholas)	plantenquiries@mcnicholas.co.uk		Not Notified
Lumen Technologies	plantenquiries@ocugroup.com	02087314613	Not Notified
Mobile Broadband Network Limited	mbnl.plant.enquiries@turntown.com	01212 621 100	Not Notified
Sota	sota.plantenquiries@ocugroup.com		Not Notified
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified

Disclaimer
Please refer to LSBUD's Terms of Use for full terms of use available at www.lsbud.co.uk
The results of this Enquiry are personal to the Enquirer and shall not be shared with or relied upon by any other party. The asset information on which the Enquiry results are based has been provided by LSBUD Members, therefore LSBUD will provide no guarantee that such information is accurate or reliable nor does it monitor such asset information for accuracy and reliability going forward. There may also be asset owners which do not participate in the enquiry service operated by LSBUD, including but not exclusively those set out above. Therefore, LSBUD cannot make any representation or give any guarantee or warranty as to the completeness of the information contained in the enquiry results or accept any responsibility for the accuracy of the mapping images used. LSBUD and its employees, agents and consultants accept no liability (save that nothing in this Enquiry Confirmation excludes or limits our liability for death or personal injury arising from our negligence, or our fraud or fraudulent misrepresentation, or any other liability that cannot be excluded or limited by English law) arising in respect thereof or in any other way for errors or omissions including responsibility to any person by reason of negligence.

Cyfoeth Naturiol Cymru
Natural Resources Wales

Flood Map for Planning - Detail

Heronsbridge ALN



Legend

- Flood Defence Locations

TAN15 Defended Zones

- Rivers
- Sea
- Rivers and Sea

Rivers

- Flood Zone 3
- Flood Zone 2

Sea

- Flood Zone 3
- Flood Zone 2

Surface Water and Small Watercourses

- Flood Zone 3
- Flood Zone 2
- Recorded Flood Extents
- Shoreline Management Plan policies

Coastal Erosion Risk with Shoreline Management Plan policies implemented scenario

- Short-term (2005-2025)
- Medium-term (2005-2055)
- Long-term (2005-2105)
- Flood Risk from Reservoirs
- Main Rivers

Scale at A3: 1:10,000

Date: 22/09/2025

0.45 0.23 0 0.45

km

British National Grid

Disclaimer

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

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LEGEND

- **SURVEY EXTENTS FOR PROPOSED TOPOGRAPHICAL SURVEY**
- **SURVEY EXTENTS FOR PROPOSED DRAINAGE / CCTV SURVEY**
- **SURVEY EXTENTS FOR PROPOSED UTILITIES GPR PAS128 SURVEY**
- **EXISTING DCWW FOUL & SURFACE WATER DRAINAGE (FROM RECORDS) AND ASSUMED EASEMENT** — SS90781402 — SS90781409
- **EXISTING TOPO / OS SURVEY DATA**
- **PROPOSED SITE LAYOUT (RIBA 2, BY OTHERS)**

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THE CONTRACTOR IS TO REFER TO THE SPECIFICATION, FULL SCHEDULE OF RESIDUAL RISKS IN THE CONTRACT DOCUMENTATION AND ALSO TO INFORMATION FROM OTHER DESIGNERS, IN PARTICULAR THE M&E CONSULTANT REGARDING EXISTING LIVE SERVICES.

THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.

ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

DRAINTECH
Cleaning • Surveys • Lining • Civils
JonPlan ref: 20724 - 01 - 001

Rev.	Description	By	Chk	App
P01	ORIGINAL ISSUE	RW	KH	KH
		29/07/25		

Client:
KIER
BRIDGEND COUNTY BOROUGH COUNCIL

Project:
HERONSBRIDGE SCHOOL

Drawing Title:
TOPO, DRAINAGE, UTILITIES SURVEY SCOPE

Drawing No.
CC2856 CAM XX XX SK CS 0002
Project Originator Function. B'down Spacial B'down Form Disc Number

Status:	Scale @A1:	Rev:
S1 PRELIMINARY	1:1000	P01

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T 029 2009 3333
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W www.cambria.co.uk
@cambriauk
uk.linkedin.com/in/cambriauk

DRAINTECH

helping to improve the drainage network

Drainage Survey Report

Job Number : 20724

Project Number: 1

Project Name: Heronsbridge School

Company: Azimuth Land Surveys Ltd

Site Date: 08-10-2025

Draintech Surveys Ltd| Atlantic House| Charnwood Park| Bridgend| CF31 3PL| 01656 767001| www.draintech.co.uk

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20724 HERONSBRIDGE SCHOOL		08/10/2025

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Project Information

Project Name	Project Number	Project Date
20724 HERONSBRIDGE SCHOOL		08/10/2025

Client

Company: Azimuth Land Surveys Ltd
Contact: Neil Fowler

Site

Company: Draintech Surveys Ltd
Contact: Jamie Kennedy

Contractor

Company: Draintech Surveys Ltd

DRAINTECH
Cleaning • Surveys • Lining • Civils

Draintech Surveys Ltd

Section Inspection - 08/10/2025 - S1X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
1	1	08/10/25	13:51	Not Specified	No Rain Or Snow	Unknown	S1X

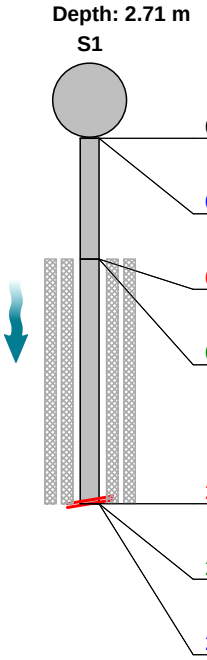
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	S1
Road:	Technology Drive	**Inspected Length:**	2.42 m	**Upstream Pipe Depth:**	2.710 m
Location:	Verge	**Total Length:**	2.42 m	**Downstream Node:**	SS90783402
Surface Type:		**Joint Length:**	2.50 m	**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	525 mm
Flow Control:	No flow control	**Pipe Material:**	Concrete
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50



Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		MH	Start node, manhole, reference: S1	00:00:00		
0.00		WL	Water level, 0% of the vertical dimension	00:00:02		
0.80	S01	H	Hole in drain or sewer from 5 o'clock to 7 o'clock, start	00:00:28	1	
0.80	S02	DEX	Settled deposits, other, 5% cross-sectional area loss, start: ROPE IN LINE	00:00:31		
2.42	F01	H	Hole in drain or sewer from 5 o'clock to 7 o'clock, finish	00:02:02	2	4
2.42	F02	DEX	Settled deposits, other, 5% cross-sectional area loss, finish: ROPE IN LINE	00:02:05		3
2.42		SA	Survey abandoned: RISK OF CRAWLER FALLING INTO HOLE	00:02:06		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
1	80.0	66.1	160.0	4.0	1	2.0	1.7	4.0	3.0

Section Pictures - 08/10/2025 - S1X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
1	Downstream	S1X		

1, 00:00:28, 0.80 m
Hole in drain or sewer from 5 o'clock to 7 o'clock, start

2, 00:02:02, 2.42 m
Hole in drain or sewer from 5 o'clock to 7 o'clock, finish

Section Inspection - 08/10/2025 - F1X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
2	1	08/10/25	14:24	Not Specified	No Rain Or Snow	Unknown	F1X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

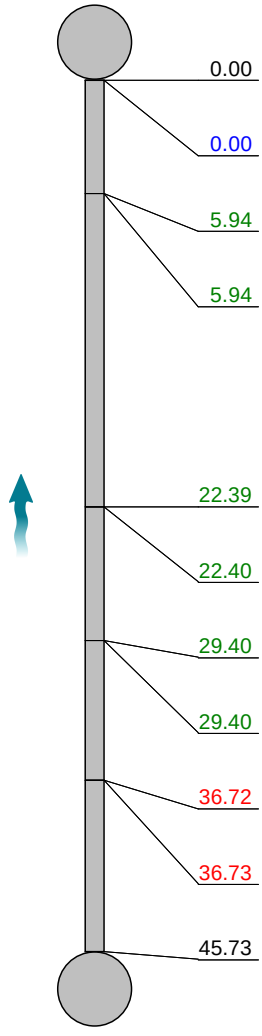
Town or Village:	Bridgend	**Inspection Direction:**	Upstream	**Upstream Node:**	F1
Road:	Technology Drive	**Inspected Length:**	45.73 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	45.73 m	**Downstream Node:**	SS90783401
Surface Type:		**Joint Length:**	1.80 m	**Downstream Pipe Depth:**	3.030 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:396

Depth: 3.03 m
SS90783401



F1
Depth: m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: SS90783401	00:00:00		
0.00	WL	Water level, 5% of the vertical dimension	00:00:02		
5.94	IRJ	Infiltration, running at joint at 5 o'clock	00:01:36		
5.94	IRJ	Infiltration, running at joint at 7 o'clock	00:01:37		
22.39	IRJ	Infiltration, running at joint at 5 o'clock	00:04:32		
22.40	IRJ	Infiltration, running at joint at 7 o'clock	00:04:33		
29.40	IRJ	Infiltration, running at joint at 5 o'clock	00:05:29		
29.40	IRJ	Infiltration, running at joint at 7 o'clock	00:05:30	1	
36.72	CCJ	Crack, circumferential at joint from 3 o'clock to 5 o'clock	00:07:13		2 / 2
36.73	CLJ	Crack, longitudinal at joint at 6 o'clock: UNDER FLOW	00:07:24		2 / 2
45.73	MHF	Finish node, manhole, reference: F1	00:09:14		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
2	20.0	0.4	20.0	2.0	2	2.0	0.0	2.0	3.0

Section Pictures - 08/10/2025 - F1X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
2	Upstream	F1X		

1, 00:05:30, 29.40 m
Infiltration, running at joint at 7 o'clock

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Draintech Surveys Ltd

Section Inspection - 08/10/2025 - SS90783401X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
3	1	08/10/25	14:45	Not Specified	No Rain Or Snow	Unknown	SS90783401X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	SS90783401
Road:	Technology Drive	**Inspected Length:**	58.87 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	58.87 m	**Downstream Node:**	SS90872304
Surface Type:		**Joint Length:**	1.80 m	**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:510

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: SS90783401	00:00:00		
0.00	WL	Water level, 5% of the vertical dimension: CLEAR WATER	00:00:02		
57.72	H	Hole in drain or sewer from 9 o'clock to 3 o'clock	00:07:42	1	5
57.72	OBP	Other obstacles, external pipe or cable from 10 o'clock to 2 o'clock, 10% cross-sectional area loss	00:07:44	2	5
58.87	MHF	Finish node, manhole, reference: SS90872304	00:08:35		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
1	165.0	2.8	165.0	5.0	1	10.0	0.2	10.0	5.0

Section Pictures - 08/10/2025 - SS90783401X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
3	Downstream	SS90783401X		

1, 00:07:42, 57.72 m
Hole in drain or sewer from 9 o'clock to 3 o'clock

2, 00:07:44, 57.72 m
Other obstacles, external pipe or cable from 10 o'clock to 2 o'clock, 10% cross-sectional area loss

Section Inspection - 08/10/2025 - SS90872304X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
4	1	08/10/25	15:00	Not Specified	No Rain Or Snow	Unknown	SS90872304X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	SS90872304
Road:	Technology Drive	**Inspected Length:**	61.08 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	61.08 m	**Downstream Node:**	SS90872305
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:529

Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m					
SS90872304					
0.00	MH	Start node, manhole, reference: SS90872304	00:00:00		
0.00	WL	Water level, 10% of the vertical dimension: UPSTREAM PUMP IS ON	00:00:03		
61.08	MHF	Finish node, manhole, reference: SS90872305	00:10:59		
SS90872305					
Depth: m					

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Inspection - 08/10/2025 - F2X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
5	1	08/10/25	15:24	Not Specified	No Rain Or Snow	Unknown	F2X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

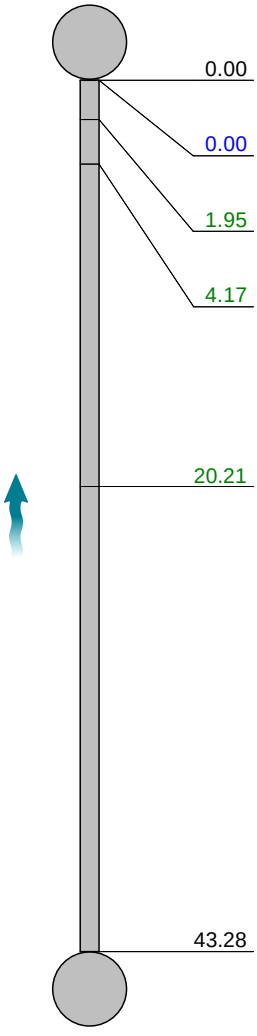
Town or Village:	Bridgend	**Inspection Direction:**	Upstream	**Upstream Node:**	F2
Road:	Technology Drive	**Inspected Length:**	43.28 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	43.28 m	**Downstream Node:**	SS90783401
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	3.020 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:375

Depth: 3.02 m
SS90783401



F2
Depth: m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: SS90783401	00:00:00		
0.00	WL	Water level, 5% of the vertical dimension	00:00:02		
1.95	LL	Line deviates left: VERY SLIGHT	00:00:33		
4.17	LU	Line deviates up	00:01:06		
20.21	LR	Line deviates right: VERY SLIGHT	00:02:37		
43.28	MHF	Finish node, manhole, reference: F2	00:05:09		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Inspection - 08/10/2025 - S2X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
6	1	08/10/25	17:43	Not Specified	No Rain Or Snow	Unknown	S2X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	S2
Road:	Technology Drive	**Inspected Length:**	11.75 m	**Upstream Pipe Depth:**	1.790 m
Location:	Verge	**Total Length:**	11.75 m	**Downstream Node:**	SS90782308
Surface Type:		**Joint Length:**	1.80 m	**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:102

Depth: 1.79 m
S2

Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		MH	Start node, manhole, reference: S2	00:00:00		
0.00		WL	Water level, 10% of the vertical dimension	00:00:03		
1.22		DES	Settled deposits, fine, 15% cross-sectional area loss	00:00:33	1	3
1.92		DER	Settled deposits, coarse, 15% cross-sectional area loss: PIECE OF WOOD?	00:01:02	2	3
1.92	S01	DES	Settled deposits, fine, 10% cross-sectional area loss, start: PATCHY	00:01:10	3	
2.44		WL	Water level, 20% of the vertical dimension	00:01:24		
5.70		WL	Water level, 35% of the vertical dimension	00:02:00		
9.90		JN	Junction at 3 o'clock, 150mm dia	00:08:14		
10.64		DES	Settled deposits, fine, 25% cross-sectional area loss	00:04:57	4	4
10.96		RF	Roots, fine	00:08:57		2
11.75	F01	DES	Settled deposits, fine, 10% cross-sectional area loss, finish: PATCHY	00:09:41		3
11.75		DES	Settled deposits, fine, 20% cross-sectional area loss	00:09:43	5	4
11.75		SA	Survey abandoned: REQUIRES CLEANING	00:09:51		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	6	7.0	3.0	35.0	4.0

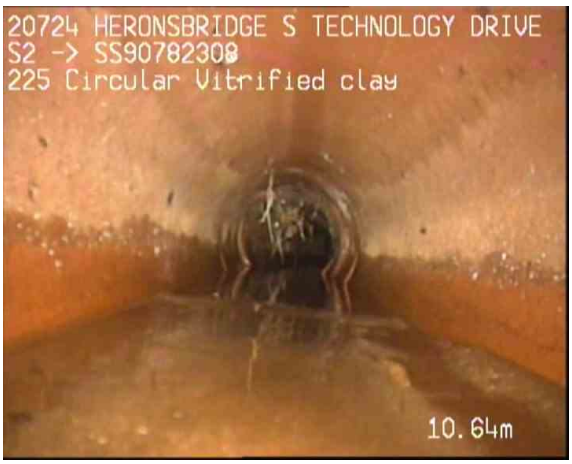
Section Pictures - 08/10/2025 - S2X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
6	Downstream	S2X		

1, 00:00:33, 1.22 m
Settled deposits, fine, 15% cross-sectional area loss

2, 00:01:02, 1.92 m
Settled deposits, coarse, 15% cross-sectional area loss, PIECE OF WOOD?

3, 00:01:10, 1.92 m
Settled deposits, fine, 10% cross-sectional area loss, start, PATCHY



4, 00:04:57, 10.64 m
Settled deposits, fine, 25% cross-sectional area loss

5, 00:09:43, 11.75 m
Settled deposits, fine, 20% cross-sectional area loss

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Section Inspection - 08/10/2025 - F3X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
7	1	08/10/25	18:05	Not Specified	No Rain Or Snow	Unknown	F3X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	F3
Road:	Technology Drive	**Inspected Length:**	41.69 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	41.69 m	**Downstream Node:**	F4
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	150 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:272	Position [m]		Code	Observation	MPEG	Photo	Grade
	0.00		MH	Start node, manhole, reference: F3	00:00:00		
	0.00		WL	Water level, 5% of the vertical dimension	00:00:04		
	0.00		REM	General remark: VIDEO HEADER INCORRECT PLEASE SEE REPORT	00:06:27		
	0.20	S01	DES	Settled deposits, fine, 5% cross-sectional area loss, start: PATCHY	00:00:17		
	0.77		JDM	Joint displaced, medium	00:00:34	1	1 / 3
	1.28		FC	Fracture, circumferential from 3 o'clock to 9 o'clock	00:00:45	2	3 / 2
	2.15		LD	Line deviates down	00:01:10		
	2.15	F01	DES	Settled deposits, fine, 5% cross-sectional area loss, finish: PATCHY	00:01:11		3
	3.72		LL	Line deviates left: VERY SLIGHT	00:01:25		
	7.40		WL	Water level, 10% of the vertical dimension	00:01:52		
	8.54		WL	Water level, 5% of the vertical dimension	00:02:10		
	15.35		WL	Water level, 10% of the vertical dimension	00:02:50		
	16.25		WL	Water level, 5% of the vertical dimension	00:02:59		
	24.57		FL	Fracture, longitudinal at 10 o'clock	00:03:32	3	3 / 2
	26.72		CLJ	Crack, longitudinal at joint at 12 o'clock	00:03:51		2 / 2

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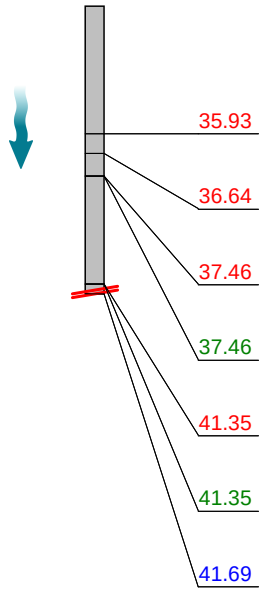
Section Inspection - 08/10/2025 - F3X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
7	1	08/10/25	18:05	Not Specified	No Rain Or Snow	Unknown	F3X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified



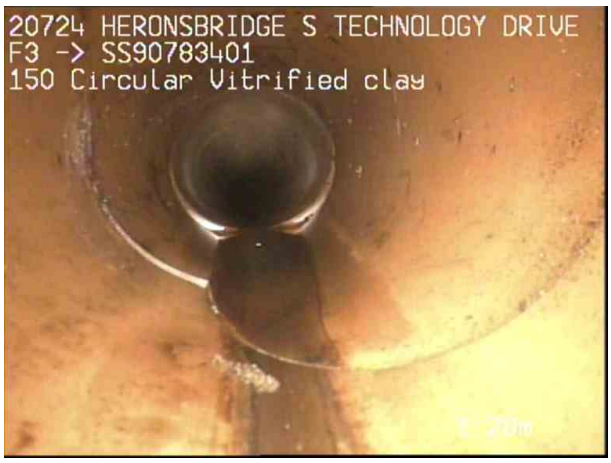
Scale: 1:272	Position [m]	Code	Observation	MPEG	Photo	Grade
	35.93	FLJ	Fracture, longitudinal at joint at 5 o'clock	00:04:35		3 / 2
	36.64	CC	Crack, circumferential from 5 o'clock to 8 o'clock	00:04:47		2 / 2
	37.46	FL	Fracture, longitudinal at 11 o'clock	00:04:57		3 / 2
	37.46	RF	Roots, fine: PRETRUDING THROUGH FRACTURE	00:04:59		2
	41.35	JDM	Joint displaced, medium	00:06:07	4	1 / 3
	41.35	RFJ	Roots, fine at joint	00:06:10		2
	41.69	SA	Survey abandoned: DISPLACED JOINT	00:06:25		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
8	40.0	4.4	182.0	3.0	11	4.0	0.4	16.0	3.0

Section Pictures - 08/10/2025 - F3X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
7	Downstream	F3X		

1, 00:00:34, 0.77 m
Joint displaced, medium



2, 00:00:45, 1.28 m
Fracture, circumferential from 3 o'clock to 9 o'clock

3, 00:03:32, 24.57 m
Fracture, longitudinal at 10 o'clock

4, 00:06:07, 41.35 m
Joint displaced, medium

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Section Inspection - 08/10/2025 - F5X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
8	1	08/10/25	19:04	Not Specified	No Rain Or Snow	Unknown	F5X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	F5
Road:	Technology Drive	**Inspected Length:**	54.38 m	**Upstream Pipe Depth:**	
Location:	Road	**Total Length:**	54.38 m	**Downstream Node:**	F6
Surface Type:		**Joint Length:**	1.80 m	**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	175 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:471

Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		MH	Start node, manhole, reference: F5	00:00:00		
0.00		WL	Water level, 5% of the vertical dimension	00:00:02		
0.20	S01	DEG	Attached deposits, grease from 7 o'clock to 5 o'clock, 5% cross-sectional area loss, start: PATCHY	00:00:05		
5.36		D	Deformed sewer or drain, 10%	00:01:22	1	4 / 3
11.27		D	Deformed sewer or drain, 10%	00:02:16	2	4 / 3
14.32		WL	Water level, 15% of the vertical dimension	00:02:41		
37.90		WL	Water level, 15% of the vertical dimension	00:05:23		
40.05		WL	Water level, 5% of the vertical dimension	00:05:41		
54.38	F01	DEG	Attached deposits, grease from 7 o'clock to 5 o'clock, 5% cross-sectional area loss, finish: PATCHY	00:08:11		3
54.38		MHF	Finish node, manhole, reference: F6: BURIED	00:08:15		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
2	80.0	2.9	160.0	4.0	3	6.0	4.1	224.0	4.0

Section Pictures - 08/10/2025 - F5X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
8	Downstream	F5X		

1, 00:01:22, 5.36 m
Deformed sewer or drain, 10%

2, 00:02:16, 11.27 m
Deformed sewer or drain, 10%

Section Inspection - 08/10/2025 - F6X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
9	1	08/10/25	19:27	Not Specified	No Rain Or Snow	Unknown	F6X

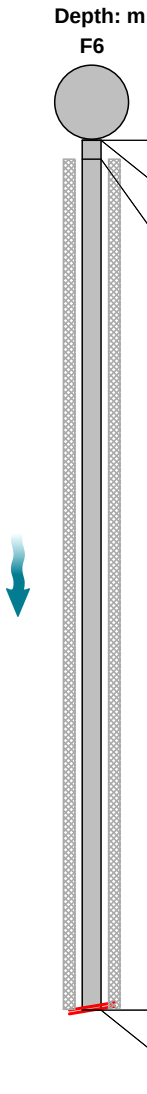
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	F6
Road:	Technology Drive	**Inspected Length:**	36.41 m	**Upstream Pipe Depth:**	
Location:	Road	**Total Length:**	36.41 m	**Downstream Node:**	SS90782101
Surface Type:		**Joint Length:**	3.00 m	**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	175 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:316



Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		MH	Start node, manhole, reference: F6: BURIED	00:00:00		
0.00		WL	Water level, 5% of the vertical dimension	00:00:04		
0.80	S01	DEG	Attached deposits, grease from 7 o'clock to 5 o'clock, 10% cross-sectional area loss, start: PATCHY	00:00:09		
36.41	F01	DEG	Attached deposits, grease from 7 o'clock to 5 o'clock, 10% cross-sectional area loss, finish: PATCHY	00:14:48	1	3
36.41		SA	Survey abandoned: WHEELS SPINNING ON GREASE	00:14:49		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	4.0	4.0	144.0	4.0

Section Pictures - 08/10/2025 - F6X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
9	Downstream	F6X		

1, 00:14:48, 36.41 m
Attached deposits, grease from 7 o'clock to 5 o'clock, 10% cross-sectional area loss, finish, PATCHY

Section Inspection - 08/10/2025 - SS90782305X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
10	1	08/10/25	21:01	Not Specified	No Rain Or Snow	Unknown	SS90782305X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	SS90782305
Road:	Technology Drive	**Inspected Length:**	85.74 m	**Upstream Pipe Depth:**	1.840 m
Location:	Fields, farmland etc	**Total Length:**	85.74 m	**Downstream Node:**	SS90781302
Surface Type:		**Joint Length:**	1.80 m	**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:743	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: 1.84 m						
SS90782305						
	0.00	MH	Start node, manhole, reference: SS90782305	00:00:00		
	0.00	WL	Water level, 5% of the vertical dimension	00:00:03		
	85.74	MHF	Finish node, manhole, reference: SS90781302: UTGA	00:09:46		
SS90781302						
Depth: m						

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Inspection - 09/10/2025 - SS90782102X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
11	1	09/10/25	14:31	Not Specified	No Rain Or Snow	Unknown	SS90782102X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	SS90782102
Road:	Technology Drive	**Inspected Length:**	47.86 m	**Upstream Pipe Depth:**	
Location:	Fields, farmland etc	**Total Length:**	47.86 m	**Downstream Node:**	SS90782201
Surface Type:		**Joint Length:**	1.80 m	**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	175 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

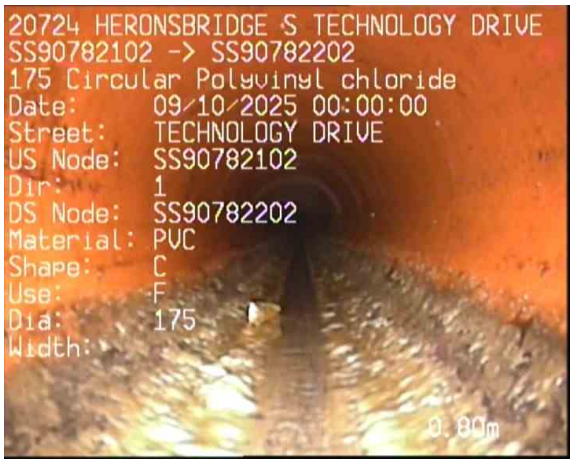
Scale: 1:415

Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		MH	Start node, manhole, reference: SS90782102	00:00:00		
0.00		WL	Water level, 5% of the vertical dimension	00:00:03		
0.80	S01	DEG	Attached deposits, grease from 4 o'clock to 8 o'clock, 10% cross-sectional area loss, start: PATCHY	00:00:07	1	
6.64		D	Deformed sewer or drain, 5%	00:01:05		1 / 2
47.86	F01	DEG	Attached deposits, grease from 4 o'clock to 8 o'clock, 10% cross-sectional area loss, finish: PATCHY	00:05:34		3
47.86		MHF	Finish node, manhole, reference: SS90782201: UTGA	00:05:36		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
1	0.0	0.0	0.0	1.0	2	5.0	4.0	193.0	4.0

Section Pictures - 09/10/2025 - SS90782102X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
11	Downstream	SS90782102X		



1, 00:00:07, 0.80 m
Attached deposits, grease from 4 o'clock to 8 o'clock, 10% cross-sectional area loss, start, PATCHY

Section Inspection - 09/10/2025 - SS90782201X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
12	1	09/10/25	14:41	Not Specified	No Rain Or Snow	Unknown	SS90782201X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	SS90782201
Road:	Technology Drive	**Inspected Length:**	28.35 m	**Upstream Pipe Depth:**	
Location:	Fields, farmland etc	**Total Length:**	28.35 m	**Downstream Node:**	SS90782301
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	175 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:246

Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		MH	Start node, manhole, reference: SS90782201: UTGA	00:00:00		
0.00		WL	Water level, 5% of the vertical dimension	00:00:03		
0.80	S01	DEG	Attached deposits, grease from 5 o'clock to 7 o'clock, 5% cross-sectional area loss, start			
26.35		WL	Water level, 10% of the vertical dimension			
26.35	C01	DEG	Attached deposits, grease from 4 o'clock to 8 o'clock, 5% cross-sectional area loss, change			
27.05		WL	Water level, 15% of the vertical dimension			
28.33		DES	Settled deposits, fine, 25% cross-sectional area loss	00:12:13	1	4
28.35	F01	DEG	Attached deposits, grease from 4 o'clock to 8 o'clock, 5% cross-sectional area loss, finish			3
28.35		SA	Survey abandoned: UNABLE TO PASS DEBRIS	00:14:13		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	2	9.0	4.1	117.0	4.0

Section Pictures - 09/10/2025 - SS90782201X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
12	Downstream	SS90782201X		

1, 00:12:13, 28.33 m
Settled deposits, fine, 25% cross-sectional area loss

Section Inspection - 09/10/2025 - SS90782101X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
13	1	09/10/25	15:28	Not Specified	No Rain Or Snow	Unknown	SS90782101X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Upstream	**Upstream Node:**	SS90782101
Road:	Technology Drive	**Inspected Length:**	43.17 m	**Upstream Pipe Depth:**	
Location:	Fields, farmland etc	**Total Length:**	43.17 m	**Downstream Node:**	SS90782102
Surface Type:		**Joint Length:**	3.00 m	**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	175 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:374 Position [m]		Code	Observation	MPEG	Photo	Grade
Depth: m SS90782102						
0.00		MH	Start node, manhole, reference: SS90782102	00:00:00		
0.00		WL	Water level, 5% of the vertical dimension	00:00:02		
0.80	S01	DEG	Attached deposits, grease from 2 o'clock to 10 o'clock, 10% cross-sectional area loss, start: PATCHY	00:00:11		
21.60		WL	Water level, 35% of the vertical dimension	00:03:29		
23.53		WL	Water level, 20% of the vertical dimension	00:04:10		
43.17	F01	DEG	Attached deposits, grease from 2 o'clock to 10 o'clock, 10% cross-sectional area loss, finish: PATCHY	00:08:45		3
43.17		SA	Survey abandoned: POSSIBLE HOLE UNDER FLOW	00:08:47		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	4.0	4.0	172.0	4.0

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Section Inspection - 17/10/2025 - F4X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
14	1	17/10/25	14:31	Not Specified	No Rain Or Snow	Unknown	F4X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	F4
Road:	Technology Drive	**Inspected Length:**	28.92 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	28.92 m	**Downstream Node:**	SS90783401
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	150 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:251	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m F4						
	0.00	MH	Start node, manhole, reference: F4			
	0.00	WL	Water level, 5% of the vertical dimension			
	0.30	RFJ	Roots, fine at joint			2
	25.22	D	Deformed sewer or drain, 10%			2 / 3
	25.22	LD	Line deviates down			
	25.22	JDM	Joint displaced, medium			1 / 3
	26.41	FC	Fracture, circumferential from 3 o'clock to 11 o'clock			3 / 2
	26.41	RF	Roots, fine: THROUGH FRACTURE			2
	27.41	WL	Water level, 15% of the vertical dimension			
SS90783401 Depth: m	28.92	MHF	Finish node, manhole, reference: SS90783401			

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
3	40.0	2.0	61.0	3.0	5	4.0	0.2	7.0	3.0

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Section Inspection - 20/10/2025 - SS90782302X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
15	1	20/10/25	11:49	Not Specified	No Rain Or Snow	Unknown	SS90782302X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	SS90782302
Road:	Technology Drive	**Inspected Length:**	10.46 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	10.46 m	**Downstream Node:**	SS90782304
Surface Type:		**Joint Length:**	1.20 m	**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:91 Position [m]		Code	Observation	MPEG	Photo	Grade
Depth: m SS90782302						
0.00		MH	Start node, manhole, reference: SS90782302	00:00:00		
0.00		WL	Water level, 5% of the vertical dimension			
2.55	S01	DEG	Attached deposits, grease from 5 o'clock to 7 o'clock, 10% cross-sectional area loss, start	00:00:21		
10.45	F01	DEG	Attached deposits, grease from 5 o'clock to 7 o'clock, 10% cross-sectional area loss, finish	00:01:25		3
10.46		SA	Survey abandoned: WHEELS SLIPPING ON GREASE	00:01:25		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	4.0	3.1	32.0	4.0

Section Inspection - 20/10/2025 - SS90782301X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
16	1	20/10/25	11:49	Not Specified	No Rain Or Snow	Unknown	SS90782301X

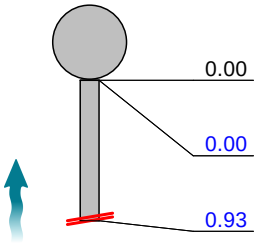
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Upstream	**Upstream Node:**	SS90782301
Road:	Technology Drive	**Inspected Length:**	0.93 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	0.93 m	**Downstream Node:**	SS90782302
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50 Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: m SS90782302					
0.00	MH	Start node, manhole, reference: SS90782302	00:00:00		
0.00	WL	Water level, 5% of the vertical dimension			
0.93	SA	Survey abandoned: UNABLE TO PASS LINE UP	00:00:50		



Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

Section Inspection - 20/10/2025 - S3X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
17	1	20/10/25	11:49	Not Specified	No Rain Or Snow	Unknown	S3X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	S3
Road:	Technology Drive	**Inspected Length:**	17.72 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	17.72 m	**Downstream Node:**	S4
Surface Type:		**Joint Length:**	3.00 m	**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:154	Position [m]		Code	Observation	MPEG	Photo	Grade
Depth: m S3							
	0.00		CP	Start node, catchpit, reference: S3	00:00:00		
	0.00		WL	Water level, 5% of the vertical dimension			
	3.81	S01	DES	Settled deposits, fine, 10% cross-sectional area loss, start: PATCHY	00:00:47		
	17.71	F01	DES	Settled deposits, fine, 10% cross-sectional area loss, finish: PATCHY	00:05:29		3
	17.72		SA	Survey abandoned: UNABLE TO PASS SILT	00:05:29		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	2.0	1.6	28.0	3.0

Section Inspection - 20/10/2025 - S3AX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
18	1	20/10/25	11:49	Not Specified	No Rain Or Snow	Unknown	S3AX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Upstream	**Upstream Node:**	S3A
Road:	Technology Drive	**Inspected Length:**	25.65 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	25.65 m	**Downstream Node:**	S3
Surface Type:		**Joint Length:**	3.00 m	**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:223

Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		CP	Start node, catchpit, reference: S3	00:00:00		
0.00		WL	Water level, 0% of the vertical dimension			
0.80	S01	DES	Settled deposits, fine, 15% cross-sectional area loss, start: PATCHY	00:00:04		
25.64	F01	DES	Settled deposits, fine, 15% cross-sectional area loss, finish: PATCHY	00:02:32		3
25.65		OCF	Finish node, other special chamber, reference: S3A: LINE IS CAPPED FOR FUTURE CONNECTIONS	00:02:32		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	1	2.0	1.9	50.0	3.0

Section Inspection - 20/10/2025 - S3X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
19	1	20/10/25	11:49	Not Specified	No Rain Or Snow	Unknown	S3X

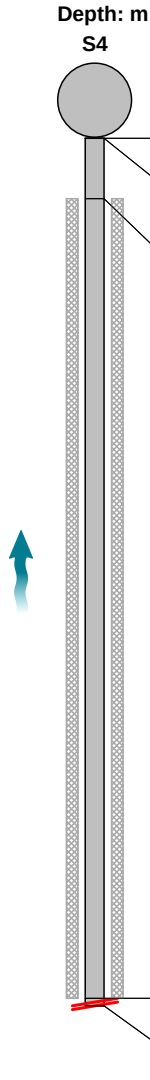
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Upstream	**Upstream Node:**	S3
Road:	Technology Drive	**Inspected Length:**	11.49 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	11.49 m	**Downstream Node:**	S4
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:100



Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		CP	Start node, catchpit, reference: S4	00:00:00		
0.00		WL	Water level, 5% of the vertical dimension			
0.80	S01	DES	Settled deposits, fine, 15% cross-sectional area loss, start: PATCHY	00:00:10		
11.39	F01	DES	Settled deposits, fine, 15% cross-sectional area loss, finish: PATCHY	00:01:12		3
11.49		SA	Survey abandoned: SURVEYS OVERLAPPED	00:01:12		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	1	2.0	1.9	22.0	3.0

Section Inspection - 20/10/2025 - S4X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
20	1	20/10/25	11:49	Not Specified	No Rain Or Snow	Unknown	S4X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	S4
Road:	Technology Drive	**Inspected Length:**	14.43 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	14.43 m	**Downstream Node:**	S5
Surface Type:		**Joint Length:**	3.00 m	**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:125 Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		CP	Start node, catchpit, reference: S4	00:00:00		
0.00		WL	Water level, 5% of the vertical dimension			
0.80	S01	DES	Settled deposits, fine, 15% cross-sectional area loss, start	00:00:06		
14.00	F01	DES	Settled deposits, fine, 15% cross-sectional area loss, finish	00:00:00		3
14.43		SA	Survey abandoned: UNABLE TO PASS SILT	00:01:43		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	1	2.0	1.9	28.0	3.0

Section Inspection - 20/10/2025 - S5X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
21	1	20/10/25	11:50	Not Specified	No Rain Or Snow	Unknown	S5X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	S5
Road:	Technology Drive	**Inspected Length:**	2.74 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	2.74 m	**Downstream Node:**	S6
Surface Type:		**Joint Length:**	3.00 m	**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	300 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50 Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		CP	Start node, catchpit, reference: S5	00:00:00		
0.00		WL	Water level, 35% of the vertical dimension			
0.80	S01	DES	Settled deposits, fine, 20% cross-sectional area loss, start: UNDER FLOW	00:00:06		
2.72		DES	Settled deposits, fine, 30% cross-sectional area loss: UNDER FLOW	00:00:48		4
2.72	F01	DES	Settled deposits, fine, 20% cross-sectional area loss, finish: UNDER FLOW	00:00:48		4
2.74		SA	Survey abandoned: UNABLE TO PASS SILT	00:00:48		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	2	10.0	5.5	15.0	5.0

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Section Inspection - 20/10/2025 - S5AX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
22	1	20/10/25	11:50	Not Specified	No Rain Or Snow	Unknown	S5AX

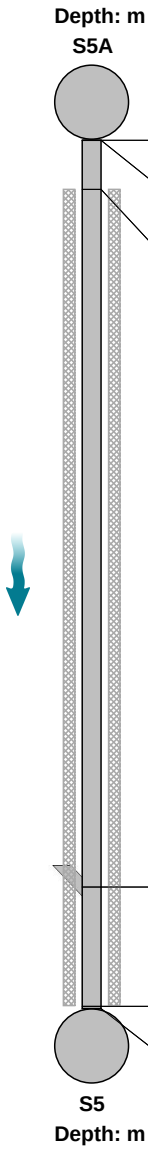
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Downstream	**Upstream Node:**	S5A
Road:	Technology Drive	**Inspected Length:**	14.03 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	14.03 m	**Downstream Node:**	S5
Surface Type:		**Joint Length:**	3.00 m	**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	225 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:122



Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		CP	Start node, catchpit, reference: S5A	00:00:00		
0.00		WL	Water level, 5% of the vertical dimension			
0.80	S01	DES	Settled deposits, fine, 20% cross-sectional area loss, start	00:00:02		
12.07		JN	Junction at 2 o'clock, 150mm dia	00:01:02		
14.00	F01	DES	Settled deposits, fine, 20% cross-sectional area loss, finish	00:01:35		4
14.03		CPF	Finish node, catchpit, reference: S5	00:01:35		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	5.0	5.0	70.0	4.0

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Section Inspection - 20/10/2025 - SP1X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
23	1	20/10/25	11:50	Not Specified	No Rain Or Snow	Unknown	SP1X

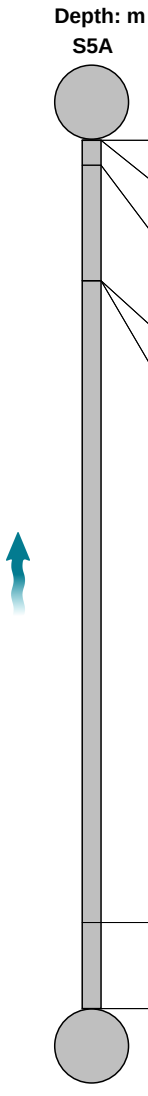
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Upstream	**Upstream Node:**	SP1
Road:	Technology Drive	**Inspected Length:**	6.90 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	6.90 m	**Downstream Node:**	S5A
Surface Type:		**Joint Length:**	3.00 m	**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	150 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:60



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	CP	Start node, catchpit, reference: S5A	00:00:00		
0.00	WL	Water level, 0% of the vertical dimension			
0.20	DES	Settled deposits, fine, 25% cross-sectional area loss	00:00:05		4
1.12	LR	Line deviates right: SLIGHT	00:00:12		
1.12	LU	Line deviates up	00:00:16		
6.22	LU	Line deviates up	00:00:33		
6.90	OCF	Finish node, other special chamber, reference: SP1: LINE DOWN			

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	1	5.0	0.7	5.0	4.0

DRAINTECH
Cleaning • Surveys • Lining • Civils

Draintech Surveys Ltd

Section Inspection - 20/10/2025 - SP2X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
24	1	20/10/25	11:50	Not Specified	No Rain Or Snow	Unknown	SP2X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Draintech jk	GL22 OYA	Not Specified	Not Specified	Not Specified	Not Specified

Town or Village:	Bridgend	**Inspection Direction:**	Upstream	**Upstream Node:**	SP2
Road:	Technology Drive	**Inspected Length:**	8.48 m	**Upstream Pipe Depth:**	
Location:	Verge	**Total Length:**	8.56 m	**Downstream Node:**	S5A
Surface Type:		**Joint Length:**	3.00 m	**Downstream Pipe Depth:**	

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	150 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:75	Position [m]	Code	Observation	MPEG	Photo	Grade
	0.00	CP	Start node, catchpit, reference: S5A	00:00:00		
	0.00	WL	Water level, 0% of the vertical dimension			
S01	0.20	DES	Settled deposits, fine, 40% cross-sectional area loss, start	00:00:11		
	0.30	LU	Line deviates up	00:00:22		
	0.30	LL	Line deviates left: SLIGHT	00:00:22		
F01	3.75	DES	Settled deposits, fine, 40% cross-sectional area loss, finish	00:00:30		4
	7.25	D	Deformed sewer or drain, 10%	00:00:43		2 / 3
	8.36	LU	Line deviates up	00:00:52		
	8.48	LD	Line deviates down	00:01:12		
	8.48	OCF	Finish node, other special chamber, reference: SP2: LINE DOWN	00:01:12		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
1	20.0	2.3	20.0	2.0	2	5.0	2.6	22.0	4.0

Appendix B: Architectural Proposals

SITE RED LINE BOUNDARY

EXISTING TREES WITH RPA
To be retained and protected

EXISTING TREES GROUP
To be retained and protected

SOFT LANDSCAPE

SPECIMEN TREES

EXISTING SCRUB

HEDGE

ORNAMENTAL HERBACEOUS PLANTING MIX 2

ORNAMENTAL HERBACEOUS PLANTING MIX 1

SWALE/ RAIN GARDEN PLANTING

WILDFLOWER MEADOW PLANTING

AMENITY GRASS

HARD LANDSCAPE

P01 PERMEABLE ASPHALT PAVING - VEHICLE GRADE
Design by Engineer

P02 NON PERMEABLE ASPHALT PAVING - VEHICULAR GRADE
For residential area . Design by Engineer

P03 PERMEABLE ASPHALT PAVING - SHARED SURFACE
Ultiporous by Tarmac or similar, colour buff.

P04 PERMEABLE CONCRETE BLOCK PAVING - CAR PARKING BAYS
Xflo Rectangular Slate by AG or similar. Final design by Engineer.

P05 PERMEABLE CONCRETE BLOCK PAVING - FEATURE PAVING
Hydropave Artro, Bracken, 220x55x80mm by Tobermore or similar

P06 PERMEABLE CONCRETE BLOCK PAVING - SHARED SURFACE
Hydropave Tegula, Bracken, 240x120x80mm, by Tobermore or similar.

P07 NON PERMEABLE CONCRETE BLOCK PAVING - SHARED SURFACE
for Residential area and seating steps,
Artro, Bracken, 220x55x80mm by Tobermore or similar.

P08 POROUS ASPHALT - MUGA
Ultiporous Leisure by Tarmac or similar, colour tbc.

P09 WET POUR SURFACE - EXTERNAL CLASSROOM
Wet pour safety surfacing by Rhino play or similar, colour tbc.

P10 RESIN BOUND GRAVEL - LOOP WALK
Addaset Eco Avon stone resin bound 6mm,UV by Addagrip or similar.

P10a NO DIG RESIN BOUND GRAVEL - LOOP WALK
Addaset Eco Avon stone resin bound 6mm,UV by Addagrip or similar.

P11 REINFORCED GRASS

P12 PROPOSED RUBBER MULCH
Rubber mulch playground safety surfacing by Rhino play or similar, buff colour mix.

P13 4G SPORTS PITCH
4G sports surface by South Wales Sports Grounds or similar.

P14 TACTILE PAVING
Tactile Blister by Marshalls or similar.

P15 TACTILE PAVING
Hazard Warning by Marshalls or similar.

P16 CONCRETE SURFACE - EXTERNAL STRUCTURES
Design by Engineer

P17 DECKING
To Residential Area

STREET FURNITURE

F01- PROPOSED LINEAR BENCH
timber top benches

F02 - PROPOSED CURVED BENCH
timber top benches

F03 - CIRCLE BENCH

F04 - PICNIC TABLE
Powder coated steel support with timber top

F05 - DOOR BARRIERS
door barriers, stainless steel

F07 - CYCLE STANDS

F08 - CYCLE SHELTERS
Fully enclosed bike shelter

F09 - RAISED PLANTERS FOR ALLOTMENT

F10 - RAISED METAL PLANTER WITH SEATS - ENTRANCE AREA

F11- SQUARE PERIMETER BEAM SHADE SAIL
by Broxap or similar. For detail, refer to drawing no. HER-HLM-ZZ-ZZ-D-L-304007

F12 - Shading structure - Horticulure Area
Whitestores Outdoor Living or Similar. For detail, refer to drawing no. HER-HLM-ZZ-ZZ-D-L-304005

F13 - WOODEN WAYMAKER POST SIGNS - LOOP WALK

F14 - EXTERNAL BIN
(Location to be confirmed)

F15 - ELECTRIC CHARGING POINT
Details and Specification to MEP specialist

PLAY FEATURE
Note:
All play features and play surface to play equipment to comply with BSEN 1176-1177 standard.

PL01- PLAY BOULDERS
smooth glacial boulders to natural play areas

PL02 - STEPPING LOG

PL03 - BALANCING BEAMS

PL04 - FALLEN LOG
de-barked log

PL05 - WILLOW DOME

PL06 - GRASS MOUND

PL08 - TEEPEE

0 5m 15m 25m 50m
Scale: 1:500

N

0 5m 15m 25m 50m
Scale: 1:500

NOTES
Check all dimensions on site. Do not scale from this drawing.
Report any discrepancies and omissions to HLM Architects
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DESIGN/SKETCH DESIGN
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PHOTOCOPIED/SCANNED INFORMATION
NB This drawing is based on photocopied / scanned information liable to distortion in scale.

AREA CALCULATIONS
NB The areas shown are approximate only and have been measured off preliminary drawings as the likely areas at the current state of design using the stated option from the Code of Measuring Practice, 6th edition. RICS/ISVA. These may be affected by future design development and construction tolerances, or the result of surveys for existing buildings. Take account of these factors before planning any financial or property development purpose or strategy and seek confirmation of latest areas before decision making.

3RD-PARTY INFORMATION
NB This drawing includes information provided by independent surveyors and/or consultants, to whom all queries shall be made. HLM Architects can accept no liability for its content or accuracy.

- This drawing represents the Stage 4 Landscape proposals and is to be read in conjunction with all relevant architectural, structural, civil, and M&E engineers drawings.
- Do not scale from this drawing.
- All measurements are in metres unless noted otherwise.
- The OS base plan is based on the latest issued survey information and coordinated consultant drawing package.
- Existing trees and vegetation are shown in accordance with the Tree Constraints Plan prepared by ArbTS dated 10 December 2025.
- Soft landscape proposals indicate coordinated planting areas, character zones, and preliminary species typologies. Final species selection and planting numbers will be confirmed at Stage 4.
- Hard landscape layouts show coordinated paving extents and key materials. Typical build-ups and interface details are to be read in conjunction with the Civil Engineer's drawings.
- Finished Floor Levels, site levels, and threshold interfaces have been spatially coordinated with the civil engineering strategy. All levels remain subject to detailed engineering design, drainage calculations, and statutory approvals.
- External lighting is not shown at this stage. Locations and specifications to be developed and coordinated with the M&E Engineer at the next design stage.
- The drainage strategy, including SuDS components, has been spatially coordinated with the landscape proposals and civil engineering design. Final hydraulic design, attenuation calculations, and detailing are to be confirmed by the Civil Engineer.
- Car parking layout and minibus drop-off design to be read in conjunction with the Civil Engineer's drawings and specifications.

DRAFT

Rev	Description	Date	By	Chk
P03	STAGE 04 REDESIGN	11/08/2026	BM	DW
C03	STAGE 4 SUBMISSION	23/06/2026	BM	DW
P02	STAGE 04 CIVILS COORDINATION	11/06/2026	BM	DW
C02	SPORTS FACILITIES DIMENSIONS	30/04/2026	EB	KM
C01	A3-ISSUE FOR STAGE 3	20/03/2026	AC	KM
P01	DRAFT ISSUE FOR CO-ORDINATION	24/02/2026	EB	KM

Revisions Suitability
Project A4

HERONSBRIDGE ALN

Client

HERONSBRIDGE ALN SCHOOL / KIER CONSTRUCTION

Title

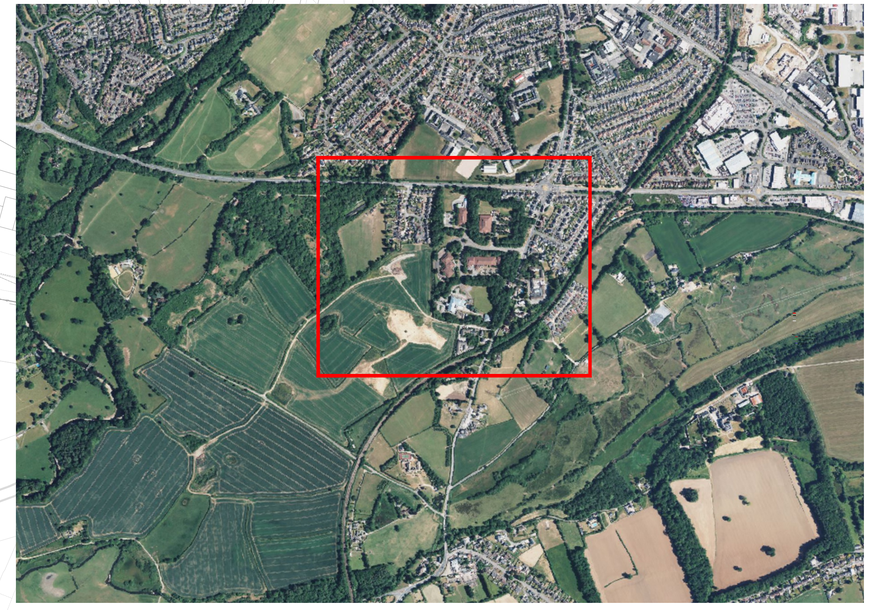
PROPOSED SITE PLAN

Drawing No.	Revision
HER-HLM-ZZ-ZZ-D-L-000002	P03

Scale	Drawn
1 : 500 @A1	BM
Date	Checked
11/08/2026	DW

HLM Architects

Appendix C: Engineering Drawings



LOCATION PLAN
SCALE - 1:10,000

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THE CONTRACTOR IS TO REFER TO THE SPECIFICATION, FULL SCHEDULE OF RESIDUAL RISKS IN THE CONTRACT DOCUMENTATION AND ALSO TO INFORMATION FROM OTHER DESIGNERS, IN PARTICULAR THE M&E CONSULTANT REGARDING EXISTING LIVE SERVICES.

THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.

ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

KEY:

- PROPOSED PLANNING BOUNDARY
- PROPOSED HERONSBRIDGE SITE BOUNDARY
- PROPOSED S38 & S278 WORKS BOUNDARY
- SCHEME PROPOSALS
- TOPOGRAPHICAL SURVEY
- OS MAPPING

GRID REFERENCE: SS 90200 78300

GRID REF (6 FIG): SS 902783

X (EASTING): 290200
Y (NORTHING): 178300

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) AND ELEVATIONS ARE IN METRES ABOVE ORDNANCE DATUM (m AOD), UNLESS OTHERWISE STATED. DO NOT SCALE FROM THIS DRAWING.
2. THE DETAILS SHOWN ON THIS DRAWING HAVE BEEN PRODUCED DURING RIBA STAGE 4 AND ARE NOT SUITABLE FOR CONSTRUCTION.
3. THE PROPOSED SITE LAYOUT SHOWN IS BASED ON LANDSCAPE INFORMATION PROVIDED BY HLM ARCHITECTS ON 11/08/2026.
4. THE OS MAPPING AND TOPOGRAPHICAL SURVEY SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHERS. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE SURVEY.
5. BOUNDARIES SHOWN ON THIS DRAWING ARE INDICATIVE AT THIS STAGE, AND ARE SUBJECT TO REVIEW AND COMMENT BY VARIOUS PROJECT STAKEHOLDERS (DESIGN TEAM, CLIENT / PM, BCBC PLANNING, BCBC HIGHWAYS, LANDOWNER ETC.).
6. THE PROPOSED PLANNING BOUNDARY AND SITE BOUNDARY SHOWN HAVE BEEN BASED ON ARCHITECTURAL INFORMATION RECEIVED IN JUNE 2026 AND SHOULD BE CONFIRMED BY THE SCHEME ARCHITECT PRIOR TO FULL PLANNING SUBMISSION.
7. THE PROPOSED S38 & S278 WORKS BOUNDARY IS SUBJECT TO CONFIRMATION BY BCBC HIGHWAYS AUTHORITY.

Rev.	Description	By	Chk	App
P05	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		17/08/26		
C02	ISSUED FOR RIBA STAGE 4	JW	RW	BW
		23/06/26		
P04	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		01/06/26		
P03	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		29/05/26		
C01	ISSUED FOR RIBA STAGE 3 NOT FOR CONSTRUCTION	JW	RW	BW
		24/03/26		
P02	ISSUED FOR RIBA STAGE 3	JW	RW	BW
		20/03/26		

Client: KIER

Project:
HERONSBRIDGE SCHOOL

Cambria Project No.
CC2856

Drawing Title:
SITE LOCATION PLAN

Drawing No.
HER - CAM - ZZ - XX - D - C - 000100

Project | Originator | Function B'down | Spatial B'down | Form | Disc. | Number

Scale @A1:	Status Code:	Revision Status:	Rev:
1:1250	S3	REVIEW & COMMENT	P05

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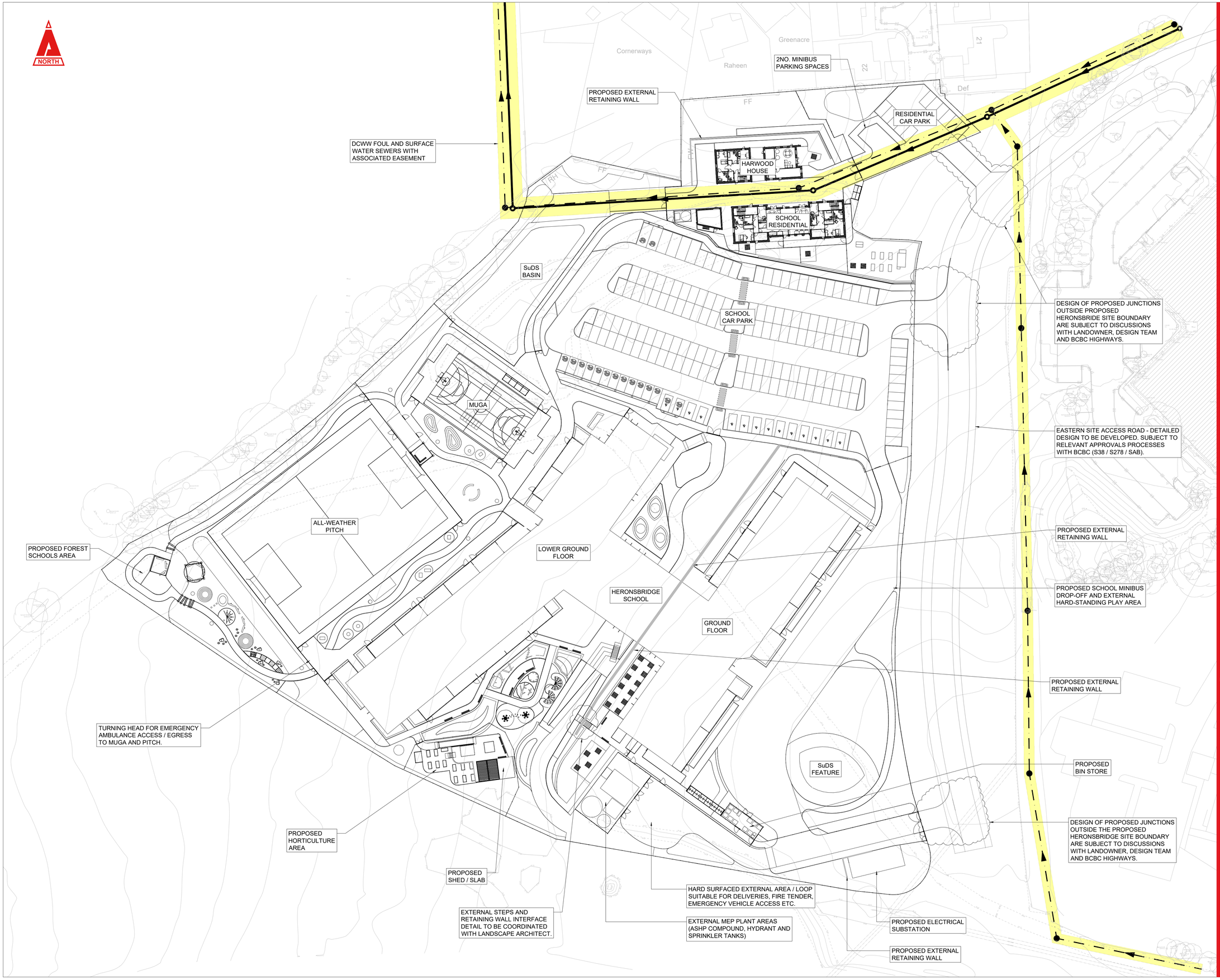

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THE CONTRACTOR IS TO REFER TO THE SPECIFICATION, FULL SCHEDULE OF RESIDUAL RISKS IN THE CONTRACT DOCUMENTATION AND ALSO TO INFORMATION FROM OTHER DESIGNERS, IN PARTICULAR THE M&E CONSULTANT REGARDING EXISTING LIVE SERVICES.

THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.

ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

KEY:

- EXISTING DCWW FOUL SEWER
- EXISTING DCWW STORM SEWER
- EXISTING DCWW EASEMENT ZONE
- SCHEME PROPOSALS
- TOPOGRAPHICAL SURVEY
- OS MAPPING

GRID REFERENCE: SS 90200 78300

GRID REF (6 FIG): SS 902783

X (EASTING): 290200
Y (NORTHING): 178300

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) AND ELEVATIONS ARE IN METRES ABOVE ORDNANCE DATUM (m AOD), UNLESS OTHERWISE STATED. DO NOT SCALE FROM THIS DRAWING.
2. THE DETAILS SHOWN ON THIS DRAWING HAVE BEEN PRODUCED DURING RIBA STAGE 4 AND ARE NOT SUITABLE FOR CONSTRUCTION.
3. THE PROPOSED SITE LAYOUT SHOWN IS BASED ON LANDSCAPE INFORMATION PROVIDED BY HLM ARCHITECTS ON 11/08/2026.
4. THE OS MAPPING AND TOPOGRAPHICAL SURVEY SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHERS. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE SURVEY.
5. PROPOSED EASTERN SITE ACCESS ROAD (INCLUDING HIGHWAYS, DRAINAGE, SAB, S38 & S278 ARRANGEMENT) IS SUBJECT TO FURTHER DESIGN AND APPROVALS BY BCBC HIGHWAYS & SAB AUTHORITIES.

Rev.	Description	By	Chk	App
P07	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		17/08/26		
C02	ISSUED FOR RIBA STAGE 4	JW	RW	BW
		23/06/26		
P06	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		29/05/26		
C01	ISSUED FOR RIBA STAGE 3 NOT FOR CONSTRUCTION	JW	RW	BW
		24/03/26		
P05	ISSUED FOR RIBA STAGE 3	JW	RW	BW
		20/03/26		
P04	PLANNING PRE-APP ISSUE.	JW	RW	BW
		18/02/26		
P03	UPDATED FOLLOWING DESIGN TEAM REVIEW AND COMMENT	JW	RW	BW
		05/02/26		
P02	WORK IN PROGRESS FOR DISCUSSION	JW	RW	BW
		26/01/26		
P01	FIRST ISSUE.	LW	RW	BW
		21/11/25		

Client: KIER

Project: HERONSBRIDGE SCHOOL

Cambria Project No. CC2856

Drawing Title: PROPOSED GENERAL ARRANGEMENT

Drawing No. HER - CAM - ZZ - XX - D - C - 000101

Project	Originator	Function. B'down	Spatial B'down	Form	Disc.	Number

Scale @A1:	Status Code:	Revision Status:	Rev:
1:500	S3	REVIEW & COMMENT	P07

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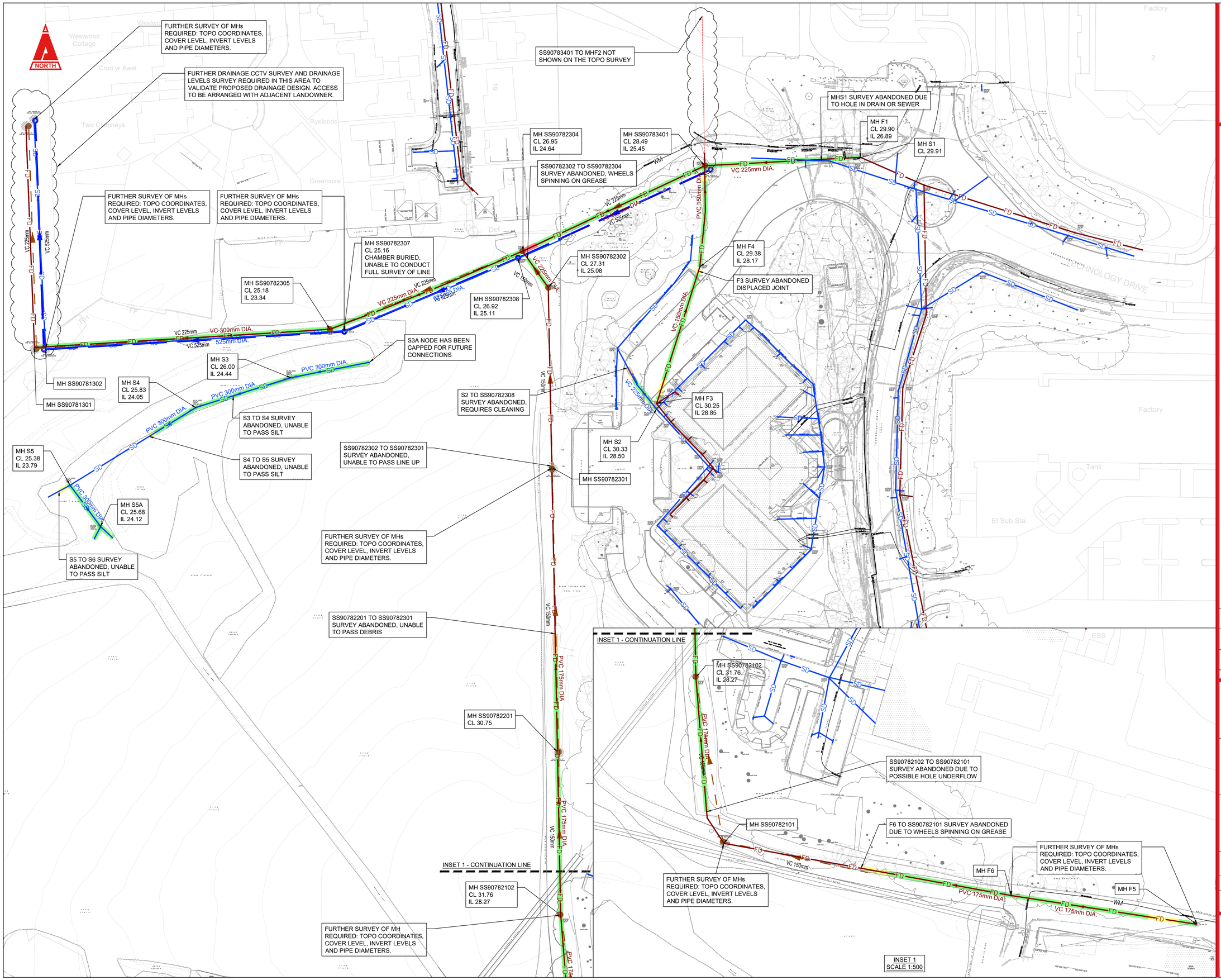

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THE CONTRACTOR IS TO REFER TO THE SPECIFICATION, FULL SCHEDULE OF RESIDUAL RISKS IN THE CONTRACT DOCUMENTATION AND ALSO TO INFORMATION FROM OTHER DESIGNERS, IN PARTICULAR THE M&E CONSULTANT REGARDING EXISTING LIVE SERVICES.

THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.

ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

KEY

- OS SURVEY MAPPING
- TOPOGRAPHICAL SURVEY
- SD — EXISTING SURFACE WATER DRAINAGE
- FD — EXISTING FOUL WATER DRAINAGE

DEFECT GRADINGS:

- GRADE 1 - 2: MINOR / SLIGHT
- GRADE 3: MODERATE
- GRADE 4: SERIOUS
- GRADE 5: SEVERE

NO COLOUR INDICATES NO / ABANDONED CCTV SURVEY

INDICATES DISCREPANCY BETWEEN UTILITY SURVEY & CCTV SURVEY

NOTES

1. ALL DIMENSIONS ARE IN METRES (m) AND ELEVATIONS ARE IN METRES ABOVE ORDNANCE DATUM (m AOD), UNLESS OTHERWISE STATED. DO NOT SCALE FROM THIS DRAWING.
2. THE DETAILS SHOWN ON THIS DRAWING HAVE BEEN PRODUCED FOR RIBA STAGE 4 AND ARE NOT SUITABLE FOR CONSTRUCTION.
3. THE OS MAPPING AND TOPOGRAPHICAL SURVEY SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHERS. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE SURVEY.
4. ILLUSTRATIVE CONDITION OF EXISTING DRAINAGE CONDITION IS BASED UPON DRAINTECH CCTV REPORT "20724 - 01 - HERONSBRIDGE SCHOOL - CCTV REPORT", RECEIVED 29/10/2025. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THIS SURVEY.
5. ANY FURTHER SURVEY WORKS OR REMEDIATION OF EXISTING DRAINAGE SHOWN IS TO BE AGREED BETWEEN THE CLIENT, KIER, DESIGN TEAM, AND ASSET OWNER BEFORE COMMENCING WORKS.
6. EXISTING FOUL AND SURFACE WATER DRAINAGE ARRANGEMENTS SHOWN ARE BASED ON THE FOLLOWING SOURCES OF THIRD PARTY INFORMATION:

- AZIMUTH UNDERGROUND UTILITIES SURVEY "KC4865-02 UG", RECEIVED 29/10/2026.
- DRAINTECH CCTV REPORT "20724 - 01 -HERONSBRIDGE SCHOOL - CCTV REPORT", RECEIVED 29/10/2025.
- EXISTING DCWW DRAINAGE & EASEMENT, BASED ON HYDROCK DRAWING "26361-HYD-XX-XX-DR-C-0500 P02 - EXISTING CONSTRAINTS PLAN", RECEIVED 22/07/2025.

NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE THIRD PARTY INFORMATION LISTED ABOVE.

Rev.	Description	By	Chk	App
P03	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		17/08/26		
C02	ISSUED FOR RIBA STAGE 4	JW	RW	BW
		23/06/26		
P02	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		29/05/26		

Client: KIER; Cyngor Bwrdeistref Sirol Pen-y-bont ar Ogwr BRIDGEND County Borough Council

Project: HERONSBRIDGE SCHOOL

Cambria Project No. CC2856

Drawing Title: EXISTING DRAINAGE - OVERVIEW GA

Drawing No. HER - CAM - ZZ - XX - D - C - 000500

Project | Originator | Function B'down | Spatial B'down | Form | Disc. | Number

Scale @A1:	Status Code:	Revision Status:	Rev:
1:500	S3	REVIEW & COMMENT	P03

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NOTES:

1. ALL DIMENSIONS ARE IN METRES (m) AND ELEVATIONS ARE IN METRES ABOVE ORDNANCE DATUM (m AOD), UNLESS OTHERWISE STATED. DO NOT SCALE FROM THIS DRAWING.
2. THE DETAILS SHOWN ON THIS DRAWING HAVE BEEN PRODUCED FOR RIBA STAGE 4 AND ARE NOT SUITABLE FOR CONSTRUCTION.
3. THE TOPOGRAPHICAL, DRAINAGE, AND UTILITIES GPR SURVEY INFORMATION SHOWN IS BASED ON INFORMATION PROVIDED OTHERS. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE SURVEY INFORMATION.
4. THE PROPOSED SITE MASTERPLAN SHOWN IS BASED ON INFORMATION PROVIDED BY HLM ARCHITECTS, RECEIVED 11/08/26. SITE LAYOUTS ARE SUBJECT TO ONGOING COORDINATION AND FURTHER DESIGN DEVELOPMENT. DRAINAGE & SUDS DESIGN SHOWN IS SUBJECT TO CHANGE BASED ON THE PROPOSED SITE MASTERPLAN.
5. RAINWATER DOWNPIPE LOCATIONS ARE BASED ON INFORMATION RECEIVED FROM HLM ARCHITECTS ON 17/06/2026. AS REQUESTED BY BCBC, ALL RAINWATER DOWNPIPES (RWPs) ARE TO BE EXTERNAL TO MITIGATE THE RISK OF INTERNAL LEAKAGE.
6. DRAINAGE DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SEWERS FOR ADOPTION 7, BUILDING REGS APPROVED DOCUMENT H, AND WG STATUTORY STANDARDS FOR SUSTAINABLE DRAINAGE.
7. DUE TO RISK OF SUBSIDENCE FROM LIMESTONE SOLUTION FEATURES, ALL SuDS FEATURES ARE TO BE INSTALLED WITH IMPERMEABLE LINERS.
8. LEVEL AND CONDITION OF OUTFALL IS TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
9. ALL LINEAR DRAINAGE CHANNEL PRODUCTS TO BE ACO (OR ENGINEER APPROVED EQUIVALENT). ALL GRATINGS TO LINEAR DRAINAGE CHANNELS TO BE 'HEELSAFE'.

NOTES (CONTINUED):

10. ALL PROPRIETARY PRODUCTS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER / SUPPLIER SPECIFICATIONS AND INSTALLATION GUIDANCE.
11. ARTIFICIAL PITCH AND MUGA DRAINAGE DESIGN TO COORDINATED WITH THE SPORTS PITCH SPECIALIST SUB-CONTRACTOR.
12. SOME SURFACE WATER DRAINAGE FEATURES HAVE NOT BEEN SHOWN AT THIS STAGE FOR CLARITY ON THE 1:500 SCALE DRAWING (E.G. SOME FILTER DRAINS, CHANNEL DRAINS SERVING PATHS, CANOPY RWP'S, BACK OF RETAINING WALL DRAINAGE ETC.). ALLOWANCES TO BE MADE FOR COSTING.
13. DRAINAGE OF RETAINING WALLS, CUTTINGS, SLOPES, AND LAND DRAINAGE REQUIREMENTS TO BE CONFIRMED IN COORDINATION WITH GEOTECHNICAL ENGINEER.
14. SURFACE WATER DRAINAGE PROPOSALS ARE SUBJECT TO A FULL SAB APPROVALS PROCESS WITH THE LOCAL SAB AUTHORITY. NO DRAINAGE WORKS ARE TO COMMENCE UNTIL A FULL SAB APPROVAL HAS BEEN GRANTED.
15. WHERE PROPOSED DRAINAGE SERVES MORE THAN TWO PROPERTIES, OR ENTERS PUBLIC OWNED AREAS, A S104 ADOPTION AGREEMENT WILL BE REQUIRED. S104 ADOPTION SUBJECT TO APPROVAL WITH DCWW.
16. WHERE PROPOSED DRAINAGE CONNECTS INTO THE EXISTING PUBLIC SEWER NETWORK, A S106 CONNECTION AGREEMENT WILL BE REQUIRED. S106 CONNECTION POINTS ARE SUBJECT TO AGREEMENT BY DCWW.
17. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER SCHEME CIVIL ENGINEERING DRAWINGS AND DOCUMENTS.

FLOW CONTROL CHAMBER
PROPOSED VORTEX FLOW CONTROL DEVICE TO RESTRICT DISCHARGE RATE TO 7.7 L/S (GRR Q-BAR). **HYDROBRAKE OPTIMUM OR ENGINEER APPROVED EQUIVALENT.**
IL: 22.600 CL: 24.550
DESIGN HEAD: 1.95m
DESIGN FLOW: 7.7 L/S

SURFACE WATER OUTFALL MANHOLE
PROPOSED NEW MH INSTALLED ON-LINE OF EXISTING DCWW SURFACE WATER SEWER. DETAILED DESIGN OF CONNECTION AND S106 TO BE AGREED WITH DCWW.

DRAINAGE LEVELS PROVIDED BY DCWW RECORDS, EXACT INVERT LEVELS AND CONDITION TBC BY FURTHER SURVEY

PROPOSED EARTH BUND INSTALLED AT BASIN PERIMETER (MIN. CL = 24.60). TO BE INSTALLED WITH V-NOTCH WEIR ON WESTERN EDGE TO MITIGATE FLOOD RISK TO EXISTING PROPERTIES.

WESTERN EXTENT OF SuDS BASIN TO BE RETAINED WITH VEGETATED BAGWORK SYSTEM TO PROTECT AGAINST EXCAVATION OF EXISTING HEDGEROW / BAT CORRIDOR

BASIN 2
MIN. TOB = 24.600m AOD
MAX. BOB = 22.900m AOD

RAINGARDEN
MIN. TOB = 24.600m AOD
MAX. BOB = 24.300m AOD
MAX 1:3 SIDE SLOPES

PROPOSED LAND DRAINAGE RUN TO BE INSTALLED PARALLEL TO NORTHERN FENCE LINE, TO MITIGATE SW FLOOD RISK ALONG THIS BOUNDARY.

WATER BUTTS PROPOSED AT THE BASE OF RWPs TO PROVIDE A MEANS OF RAINWATER RE-USE FOR RESIDENTIAL GARDEN WATERING ETC.

GEOCELLULAR ATTENUATION SYSTEM
SDS GEOLIGHT (OR ENGINEER APPROVED EQUIVALENT) TO PROVIDE ATTENUATION FOR 1:100-YEAR + 40% CC DESIGN STORM.
MIN. POROSITY = 95%
MIN. CL = 25.653 IL = 22.800
L = 46m W = 37m D = 1.5m
NET. VOL. = 2425m³ VOL. = 2553m³

PERMEABLE PAVING WITHIN CAR PARK TO PROVIDE SURFACE WATER TREATMENT AND INTERCEPTION OF RUNOFF.

DRAINAGE IN THIS AREA TO BE COORDINATED WITH ARCHITECT, LANDSCAPE ARCHITECT, MEP ENGINEER AND POOL SPECIALIST.

ALLOWANCES TO BE MADE FOR POTENTIAL PROPRIETARY TREATMENT DEVICES (IN LIEU OF GREEN SuDS) FOR ROOF RUNOFF, DUE TO PRESENCE OF EXTERNAL POOL BACKWASH TANK / SYSTEM. EXTERNAL POOL BACKWASH TANK DESIGN TBC WITH POOL SPECIALIST.

RWH TANK TO PROVIDE RAINWATER RE-USE AND INTERCEPTION. TANK VOLUME = 74m³. REFER TO RWH SPECIALIST AND MEP ENGINEER DESIGN FOR DETAILED RWH SPECIFICATION.

EXTERNAL MINIBUS DROP-OFF AREA TO BE DRAINED VIA GREEN SuDS FEATURES TO PROVIDE TREATMENT AND AND INTERCEPTION OF ROAD RUNOFF.

BASIN 1
MIN. TOB = 29.100m AOD
MAX. BOB = 28.500m AOD
MAX 1:3 SIDE SLOPES

DRAINAGE TO PERMEABLE MUGA AND ARTIFICIAL PITCH SHOWN INDICATIVELY AT THIS STAGE - TO BE DESIGNED IN COORDINATION WITH SPECIALIST SPORTS PITCH SUPPLIER / CONTRACTOR.

PROPOSED DRY SWALE, FENCING, MAINTENANCE PATHS, PLAY EQUIPMENT ETC. TO BE COORDINATED WITH LANDSCAPE ARCHITECT.

PROPOSED DRY SWALE TO PROVIDE INTERCEPTION FOR WESTERN ROOF AREAS NOT SERVED BY RWH SYSTEM OR BASIN.

RAINGARDEN FEATURES TO TREAT AND INTERCEPT RUNOFF FROM SOUTHERN COURTYARD AND CONVEY SURFACE WATER AROUND THE SOUTH OF THE BUILDING

EXTERNAL PLANT SLABS TO BE SERVED BY DIRECT CONNECTIONS TO FOUL - E.G. EXTERNAL FOUL GULLIES / MEP PLANT DRAINS / CONDENSATE PIPES. REFER TO PROPOSED FOUL DRAINAGE GA.

SOUTHERN ACCESS ROAD TO BE SERVED BY DRY SWALE. SOUTHERN ACCESS TO BE SURFACED WITH ASPHALT DUE TO POTENTIAL UTILITIES / SERVICE CORRIDORS. REFER TO MEP ENGINEER DESIGN FOR EXTERNAL UTILITY ROUTING.

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THE CONTRACTOR IS TO REFER TO THE SPECIFICATION, FULL SCHEDULE OF RESIDUAL RISKS IN THE CONTRACT DOCUMENTATION AND ALSO TO INFORMATION FROM OTHER DESIGNERS, IN PARTICULAR THE M&E CONSULTANT REGARDING EXISTING LIVE SERVICES.

THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.

ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

KEY:

- EXISTING DCWW SW SEWER, FOUL SEWER AND EASEMENT
- EXISTING SURFACE WATER DRAINAGE (FROM GPR SURVEY RECORDS)
- PROPOSED SURFACE WATER CARRIER DRAIN (150mm UNLESS NOTED OTHERWISE)
- PROPOSED SURFACE WATER PERFORATED PIPE (150mm UNLESS NOTED OTHERWISE)
- PROPOSED SURFACE WATER CHAMBER / MANHOLE
- RE PROPOSED RODDING EYE/ OVERFLOW GULLY
- RWP PROPOSED RAINWATER PIPE
- PROPOSED GEO-CELLULAR ATTENUATION SYSTEM (SDS)
- DB PROPOSED DIFFUSER BOX
- PROPOSED FLOW CONTROL (HYDROBRAKE)
- PROPOSED CASTELLATED KERB (MARSHALLS EDEN KERB)
- PROPOSED LINEAR CHANNEL DRAINAGE (ACO)
- PROPOSED COMBINED KERB DRAINAGE (ACO KERBDRAIN)
- PROPOSED SuDS FEATURE
- PROPOSED PERMEABLE PAVING (BLOCK PAVED AREAS)
- PROPOSED PERMEABLE SURFACE (ALL WEATHER PITCH, MUGA, EXTERNAL PLAY AREAS)

Rev.	Description	By	Chk	App
P05	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		17/08/26		
C02	ISSUED FOR RIBA STAGE 4	JW	RW	BW
		23/06/26		
P04	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		29/05/26		
C01	ISSUED FOR RIBA STAGE 3 NOT SUITABLE FOR CONSTRUCTION	JW	RW	BW
		27/03/26		
P03	ISSUED FOR RIBA STAGE 3	JW	RW	BW
		20/03/26		
P02	PLANNING PRE-APP ISSUE. RWH TANK LOCATION UPDATED. SuDS AND SW NETWORK UPDATED TO SITE LAYOUT.	JW	RW	BW
		18/02/26		

Client: KIER / Cyngor Bwrdeistref Sirol Pen-y-bont ar Ogwr BRIDGEND County Borough Council

Project: HERONSBRIDGE SCHOOL

Cambria Project No. CC2856

Drawing Title: PROPOSED SURFACE WATER DRAINAGE OVERVIEW GA

Drawing No. HER - CAM - ZZ - XX - D - C - 000501

Project | Originator | Function B'down | Spatial B'down | Form | Disc. | Number

Scale @A1:	Status Code:	Revision Status:	Rev:
1:500	S3	REVIEW & COMMENT	P05

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NOTES:

1. ALL DIMENSIONS ARE IN METRES (m) AND ELEVATIONS ARE IN METRES ABOVE ORDNANCE DATUM (m AOD), UNLESS OTHERWISE STATED. DO NOT SCALE FROM THIS DRAWING.
2. THE DETAILS SHOWN ON THIS DRAWING HAVE BEEN PRODUCED DURING RIBA STAGE 4 AND ARE NOT SUITABLE FOR CONSTRUCTION.
3. THE TOPOGRAPHICAL, DRAINAGE, AND UTILITIES GPR SURVEY INFORMATION SHOWN IS BASED ON INFORMATION PROVIDED OTHERS. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE SURVEY INFORMATION.
4. THE PROPOSED SITE MASTERPLAN SHOWN IS BASED ON INFORMATION PROVIDED BY HLM ARCHITECTS, RECEIVED 11/08/26. SITE LAYOUTS ARE SUBJECT TO ONGOING COORDINATION AND FURTHER DESIGN DEVELOPMENT. DRAINAGE DESIGN SHOWN IS SUBJECT TO CHANGE BASED ON THE PROPOSED SITE MASTERPLAN.
5. INTERNAL ABOVE GROUND SVP AND STACK LOCATIONS ARE BASED ON INFORMATION RECEIVED FROM MCCANN & PARTNERS ON 03/07/2026. FOUL DRAINAGE DESIGN IS SUBJECT TO CHANGE BASED ON INTERNAL ABOVE GROUND DRAINAGE DESIGN.
6. DRAINAGE DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SEWERS FOR ADOPTION 7, BUILDING REGS APPROVED DOCUMENT H, AND WG STATUTORY STANDARDS FOR SUSTAINABLE DRAINAGE.
7. LEVEL AND CONDITION OF OUTFALL IS TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
8. ALL PROPRIETARY PRODUCTS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER / SUPPLIER SPECIFICATIONS AND INSTALLATION GUIDANCE.
9. DRAINAGE PROPOSALS ARE SUBJECT TO A FULL SAB APPROVALS PROCESS WITH THE LOCAL AUTHORITY SAB AUTHORITY. NO DRAINAGE WORKS ARE TO COMMENCE UNTIL FULL SAB APPROVAL HAS BEEN GRANTED.
10. WHERE PROPOSED DRAINAGE SERVES MORE THAN TWO PROPERTIES, OR ENTERS PUBLIC OWNED AREAS, A S104 ADOPTION AGREEMENT WILL BE REQUIRED. S104 ADOPTION SUBJECT TO APPROVAL WITH DCWW.
11. WHERE PROPOSED DRAINAGE CONNECTS INTO THE EXISTING PUBLIC SEWER NETWORK, A S106 CONNECTION AGREEMENT WILL BE REQUIRED. S106 CONNECTION POINTS ARE SUBJECT TO AGREEMENT BY DCWW.
12. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER SCHEME CIVIL ENGINEERING DRAWINGS AND DOCUMENTS.

NORTH

PROPOSED NEW MH INSTALLED ON-LINE OF EXISTING DCWW FOUL WATER SEWER. PROPOSED CONNECTION AND S106 DESIGN SUBJECT TO AGREEMENT WITH DCWW.

DRAINAGE LEVELS PROVIDED BY DCWW RECORDS, EXACT INVERT LEVELS AND CONDITION TBC BY FURTHER SURVEY

ABOVE GROUND FOUL DRAINAGE SERVING ENERGY CENTRE AND MEP PLANT SLAB TBC BY MEP ENGINEER

FOUL DRAINAGE IN THIS AREA SUBJECT TO CHANGE BASED ON MEP & POOL SPECIALIST DESIGN. ITEMS WHICH REQUIRE FURTHER CLARIFICATION:
- POOL LINEAR DRAINAGE & OUTLETS
- BACKWASH TANK VOLUMES
- PEAK FOUL FLOW RATES
- TRADE EFFLUENT CONSENT

EXTERNAL FOUL DRAINAGE NETWORK ROUTED AROUND PERIMETER OF BUILDING TO ALLOW CONNECTIONS FROM INTERNAL FOUL STACKS & SVPS

SETTING OUT OF FOUL DRAINAGE SERVING EXTERNAL PLANT, TANKS, AND ASHP SLAB CONDENSATE PIPES ARE TBC BY MEP ENGINEER. REFER TO MEP DESIGN FOR EXACT SETTING OUT OF MEP APPARATUS AND DRAIN POINTS.

PROPOSED FOUL GULLY TO SERVE BIN STORE

PROPOSED FOUL DRAINAGE CONNECTION TO EXISTING DCWW FOUL MANHOLE SUBJECT TO S106 APPROVAL PROCESS WITH DCWW.

EASTERN SITE ACCESS ROAD - DETAILED DESIGN TO BE DEVELOPED. SUBJECT TO RELEVANT APPROVALS PROCESSES WITH BCBC (S38 / S278 / SAB).

FOUL DRAINAGE NETWORK ROUTED AROUND PERIMETER OF BUILDING TO ALLOW CONNECTIONS FROM INTERNAL SVP'S / STACKS

KITCHEN FOUL DRAINAGE CURRENTLY IN ABEYANCE. TBC PENDING KITCHEN SPECIALIST DESIGN & MEP DESIGN.

INDICATIVE INTERNAL RETAINING STRUCTURE (REFER TO STRUCTURAL ENGINEERING DRAWINGS)

PROPOSED BELOW GROUND GREASE SEPARATION UNIT (SPEL GS200/4000 OR ENGINEER APPROVED EQUIVALENT) TO TREAT GREASE FROM KITCHEN STACKS. DESIGN OF EXACT UNIT TO BE COORDINATED WITH SCHEME KITCHEN DESIGNER AND SPECIALIST.

SS90781301 CL:23.88 IL:21.25

SS90782303 CL:26.95 IL:24.64

SS90782305 CL:25.18 IL:23.34

REFER TO MEP DESIGN FOR EXACT RESIDENTIAL FOUL STACK POSITIONS

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THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.

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KEY:

- EXISTING DCWW SW SEWER, FOUL SEWER AND EASEMENT
- EXISTING FOUL WATER DRAINAGE (FROM GPR SURVEY RECORDS)
- PROPOSED FOUL WATER CARRIER DRAIN (MIN. 150mm UNLESS NOTED OTHERWISE)
- PROPOSED FOUL WATER CONNECTION (MIN. 100mm UNLESS NOTED OTHERWISE)
- PROPOSED FOUL WATER CHAMBER / MANHOLE
- PROPOSED EXTERNAL BACKDROP
- SVP — PROPOSED FOUL STACK / SVP (TBC BY ARCHITECT / PUBLIC HEALTH ENGINEER)
- FG — PROPOSED EXTERNAL FOUL GULLY
- PROPOSED BACKWASH TANK (TBC WITH POOL SPECIALIST)
- PROPOSED GREASE SEPARATOR (SPEL OR ENGINEER APPROVED EQUIVALENT)

Rev.	Description	By	Chk	App
P04	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC).	JW	RW	BW
		17/08/26		
C02	ISSUED FOR RIBA STAGE 4	JW	RW	BW
		23/06/26		
P03	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC).	JW	RW	BW
		29/05/26		
C01	ISSUED FOR RIBA STAGE 3. NOT SUITABLE FOR CONSTRUCTION.	JW	RW	BW
		27/03/26		
P02	ISSUED FOR RIBA STAGE 3	JW	RW	BW
		20/03/26		
P01	ORIGINAL ISSUE	JW	RW	BW
		18/02/26		

Client: KIER

Cyngor Bwrdeistref Sirol Pen-y-bont ar Ogwr — BRIDGEND County Borough Council

Project: HERONSBRIDGE SCHOOL

Cambria Project No. CC2856

Drawing Title: PROPOSED FOUL WATER DRAINAGE OVERVIEW GA

Drawing No. HER - CAM - ZZ - XX - D - C - 000502

Project | Originator | Function | Spatial | Form | Disc. | Number

Scale @A1:	Status Code:	Revision Status:	Rev.
1:500	S3	REVIEW & COMMENT	P04

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THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.

ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

KEY:

——— TOPOGRAPHICAL SURVEY

——— OS MAPPING

GRID REFERENCE: SS 90200 78300

GRID REF (6 FIG): SS902783

X (EASTING): 290200
Y (NORTHING):178300

NOTES

1. ALL DIMENSIONS ARE IN METRES (m) AND ELEVATIONS ARE IN METRES ABOVE ORDNANCE DATUM (m AOD), UNLESS OTHERWISE STATED. DO NOT SCALE FROM THIS DRAWING.
2. THE DETAILS SHOWN ON THIS DRAWING HAVE BEEN PRODUCED FOR RIBA STAGE 4 AND ARE NOT SUITABLE FOR CONSTRUCTION.
3. THE OS MAPPING AND TOPOGRAPHICAL SURVEY SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHERS. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE SURVEY.

Rev.	Description	By	Chk	App
P03	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC).	JW	RW	BW
		17/08/26		
C02	ISSUED FOR RIBA STAGE 4	JW	RW	BW
		23/06/26		
P02	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC).	JW	RW	BW
		29/05/26		
C01	ISSUED FOR RIBA STAGE 3 NOT FOR CONSTRUCTION	JW	RW	BW
		24/03/26		
P01	ISSUED FOR RIBA STAGE 3.	JW	RW	BW
		20/03/26		

Client:

KIER

Project:

HERONSBRIDGE SCHOOL

Cambria Project No.

CC2856

Drawing Title:

EXISTING TOPOGRAPHICAL SURVEY

Drawing No.

HER - CAM - ZZ - XX - D - C - 000600

Project | Originator | Function. B'down | Spatial B'down | Form | Disc. | Number

Scale @A1:	Status Code:	Revision Status:	Rev:
1:500	S3	REVIEW & COMMENT	P03

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NORTH

KEY:

FFL 8.40	FINISHED FLOOR LEVELS
× 2.588m	SPOT LEVELS
× 2.588m	EXISTING SPOT LEVELS
1:3	PROPOSED FALL
	MINOR CONTOUR
	MAJOR CONTOUR
	RETAINING STRUCTURE (REFER TO STRUCTURAL DRAWINGS)
	VEGETATED BAGWORK RETAINING FEATURE (GRAVITAS FLEX MSE SYSTEM OR ENGINEER APPROVED EQUIVALENT)

PROPOSED VEGETATED BAGWORK RETAINING FEATURE TO FACILITATE CHANGE IN LEVELS BETWEEN CAR PARK AND RESIDENTIAL GARDEN AREA. REFER TO SUPPLIER DETAILS AND INSTALLATION GUIDANCE.

EASTERN SITE ACCESS ROAD - DETAILED DESIGN TO BE DEVELOPED. SUBJECT TO RELEVANT APPROVALS PROCESSES WITH BCBC (S38 / S278 / SAB).

PROPOSED VEGETATED BAGWORK BANK TO FACILITATE CHANGE IN LEVELS BETWEEN SCHOOL CAR PARK AND HARDWOOD HOUSE GARDEN

PROPOSED RETAINING STRUCTURE TO FACILITATE CHANGE IN LEVELS BETWEEN GROUND FLOOR AND LOWER GROUND FLOOR. REFER TO STRUCTURAL ENGINEERING DRAWINGS.

PROPOSED VEGETATED BAGWORK BANK TO FACILITATE CHANGE IN LEVELS BETWEEN SLOPED PATH AND EXTERNAL COURTYARD

SHED
FFL = 27.275

EXTERNAL STEPS AND RETAINING WALL INTERFACE DETAIL TO BE COORDINATED WITH LANDSCAPE ARCHITECT.

BIN STORE SLAB
FFL = 29.600m

ELECTRICAL SUBSTATION SLAB
FFL = 29.700m

PE STORE SLAB
FFL = 29.550m

LOWER GROUND FLOOR
FFL - 26.025m

GROUND FLOOR
FFL - 30.000m

FFL - 25.200m

FFL - 25.500m

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NOTES

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2. THE DETAILS SHOWN ON THIS DRAWING HAVE BEEN PRODUCED FOR RIBA STAGE 4, AND ARE NOT FOR CONSTRUCTION.
3. THE SITE BOUNDARY AND PROPOSED SITE MASTERPLAN SHOWN IS BASED ON INFORMATION PROVIDED BY HLM ARCHITECTS RECEIVED 11/08/26.
4. DESIGN OF PROPOSED FINISHED LEVELS IS SUBJECT TO CHANGE BASED ON THE PROPOSED SITE MASTERPLAN.
5. FOR DESIGN OF RETAINING WALLS, REFER TO STRUCTURAL ENGINEERING DRAWINGS.
6. FOR DESIGN OF VEGETATED BAGWORK RETAINING FEATURES, REFER TO SPECIALIST / SUPPLIER DESIGN DRAWINGS.
7. THE OS MAPPING AND TOPOGRAPHICAL SURVEY SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHERS. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE SURVEY.
8. ACCESS ROAD LEVELS TO THE EAST OF THE SITE BOUNDARY (OFF-SITE) HAVE BEEN TAKEN FROM WL2 DRAWING "19-00637 - H03 Rev D Setting-Out & Levels". EASTERN SITE ACCESS ROAD LAYOUT & LEVELS ARE POTENTIALLY SUBJECT TO CHANGE, FURTHER COORDINATION REQUIRED BETWEEN DESIGN TEAM AND BCBC HIGHWAYS DEPARTMENT.
9. EASTERN SITE ACCESS ROAD DESIGN IS SUBJECT TO HIGHWAYS APPROVALS PROCESSES (S38 / S278) WITH BRIDGEND COUNTY BOROUGH COUNCIL HIGHWAYS AUTHORITY.
10. EARTHWORKS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH THE SHW SERIES 600 AND THE PROJECT SPECIFIC EARTHWORKS SPECIFICATION.

Rev.	Description	By	Chk	App
P07	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC)	JW	RW	BW
		17/08/26		
C02	ISSUED FOR RIBA STAGE 4	JW	RW	BW
		23/06/26		
P06	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC).	JW	RW	BW
		29/05/26		
C01	ISSUED FOR RIBA STAGE 3 NOT FOR CONSTRUCTION	JW	RW	BW
		24/03/26		
P05	ISSUED FOR RIBA STAGE 3	JW	RW	BW
		20/03/26		
P04	INTERIM RIBA STAGE 3 ISSUE - FOR DESIGN TEAM COMMENT	JW	RW	BW
		11/03/26		
P03	W.I.P DRAFT. SITE LAYOUTS UPDATED. ISSUED TO ASSIST WITH GROUND INVESTIGATION WORKS ON SITE.	JW	RW	BW
		12/01/26		
P02	REVISED SITE LAYOUT & LEVELS	GJ	RW	BW
		09/09/25		
P01	FIRST ISSUE FOR COMMENT.	JW	RW	BW
		13/08/25		

Client: KIER

Project: HERONSBRIDGE SCHOOL

Cambria Project No. CC2856

Drawing Title: PROPOSED FINISHED LEVELS - GENERAL ARRANGEMENT

Drawing No. HER CAM ZZ XX D C 000601

Project | Originator | Function. B'down | Spatial B'down | Form | Disc. | Number

Scale @A1:	Status Code:	Revision Status:	Rev:
1:500	S3	REVIEW & COMMENT	P07

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NORTH

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND ELEVATIONS ARE IN METERS ABOVE ORDNANCE DATUM (m AOD), UNLESS OTHERWISE NOTED.
2. THE DETAILS SHOWN ON THIS DRAWING HAVE BEEN PRODUCED DURING RIBA STAGE 4, AND ARE NOT FOR CONSTRUCTION.
3. THE PROPOSED SITE MASTERPLAN SHOWN IS BASED ON INFORMATION PROVIDED BY HLM (LANDSCAPE ARCHITECT) RECEIVED 11/08/2026.
4. DESIGN OF PROPOSED EXTERNAL WORKS, PAVEMENTS & CONSTRUCTION FINISHES IS SUBJECT TO CHANGE BASED ON THE PROPOSED SITE MASTERPLAN.
5. DESIGN OF RETAINING FEATURES (INCLUDING WALLS AND VEGETATED BANKS ETC.) ARE TO BE CONFIRMED BY THE STRUCTURAL / GEOTECHNICAL ENGINEER.
6. THE OS MAPPING AND TOPOGRAPHICAL SURVEY SHOWN ARE BASED ON INFORMATION PROVIDED BY OTHERS. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE SURVEY.
7. EASTERN SITE ACCESS ROAD DESIGN HAS BEEN TAKEN FROM WL2 DRAWING "19-00637 - H03 Rev D Setting-Out & Levels". EASTERN SITE ACCESS ROAD LAYOUT & LEVELS ARE SUBJECT TO CHANGE, FURTHER COORDINATION IS REQUIRED BETWEEN HERONSBRIDGE SITE AND EASTERN SITE ACCESS ROAD.
8. EASTERN SITE ACCESS ROAD DESIGN IS SUBJECT TO HIGHWAYS APPROVALS PROCESSES (S38 / S278) WITH BRIDGEND COUNTY BOROUGH COUNCIL HIGHWAYS AUTHORITY.
9. CONSTRUCTION BUILD-UP DESIGN IS BASED ON A DESIGN CBR VALUE OF 5%. THIS HAS BEEN TAKEN ACROSS THE SITE BASED ON INITIAL GEOTECHNICAL SURVEY INFORMATION. CBR VALUES TO BE TESTED, VALIDATED AND CONFIRMED DURING WORKS ON SITE.
10. IF CBR MEASUREMENTS ON SITE ARE FOUND TO BE LESS THAN 5%, CONTRACTOR TO ADVISE CIVIL ENGINEER.
11. EARTHWORKS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH SHW SERIES 600 AND THE PROJECT SPECIFIC EARTHWORKS SPECIFICATION.

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CONTRACTORS MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO CAMBRIA CONSULTING LIMITED BEFORE PROCEEDING.

THE CONTRACTOR IS TO REFER TO THE SPECIFICATION, FULL SCHEDULE OF RESIDUAL RISKS IN THE CONTRACT DOCUMENTATION AND ALSO TO INFORMATION FROM OTHER DESIGNERS, IN PARTICULAR THE M&E CONSULTANT REGARDING EXISTING LIVE SERVICES.

THIS SYMBOL IS USED TO HIGHLIGHT INSTANCES OF RISK WITHIN THE CONSTRUCTION PROCESS.

ALWAYS CHECK FOR LATER REVISIONS OF THIS DRAWING.

KERBING & EDGING KEY

- HB2 (HALF-BATTERED) KERB LAID TO 125mm UPSTAND
- HB2 (HALF-BATTERED) KERB WITH SuDS INLETS (MARSHALLS EDENKERB OR APPROVED EQUIVALENT)
- BN2 (BULLNOSED) KERB LAID TO 0-6mm UPSTAND
- BN2 (BULLNOSED) KERB LAID TO 25mm UPSTAND
- CS2 (SQUARE CHANNEL) KERB LAID FLUSH, 0mm UPSTAND
- TK (TRANSITION) KERB
- EF (EDGING KERB)
- QK (QUADRANT KERB)
- BLISTER TACTILE PAVING
- LADDER TACTILE PAVING
- RETAINING STRUCTURE (REFER TO STRUCTURAL DRAWINGS)
- VEGETATED BAGWORK RETAINING FEATURE (GRAVITAS FLEX MSE SYSTEM OR ENGINEER APPROVED EQUIVALENT)

CONSTRUCTION FINISHES KEY

- ASPHALT CARRIAGEWAY (ACW-01)
- ASPHALT FOOTWAY (AFW-01)
- PERMEABLE BLOCK PAVING - TRAFFIC CATEGORY D (PBP-01)
- PERMEABLE BLOCK PAVING - TRAFFIC CATEGORY C (PBP-02)
- CONCRETE BLOCK PAVING - TRAFFIC CATEGORY 5 (CBP-01)
- FEATURE BLOCK PAVING - TRAFFIC CATEGORY 5 (FBP-01)
- MULTI-USE GAMES AREA (MUGA)
- ALL-WEATHER PITCH (AWP)
- RESIN BOUND AGGREGATE (RBA)
- PERMEABLE WET POUR (PWP)
- RUBBER MULCH SURFACE (RMS)
- REINFORCED GRASS SURFACE (RGS)
- SENSORY PATH - SURFACE TBC BY LANDSCAPE / PLAY SPECIALIST
- WOODEN DECKING - TBC BY LANDSCAPE / DECKING SPECIALIST
- PROPOSED BUILDING (REFER TO STRUCTURAL DRAWINGS)
- PROPOSED EXTERNAL CONCRETE SLAB (REFER TO STRUCTURAL DRAWINGS)
- PROPOSED GREEN SuDS FEATURE (REFER TO DRAINAGE DRAWINGS)
- SOFT LANDSCAPING - REFER TO LANDSCAPE ARCHITECT SPECIFICATION

Rev.	Description	By	Chk	App
P03	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC). 17/08/26	JW	RW	BW
C02	ISSUED FOR RIBA STAGE 4 23/06/26	JW	RW	BW
P02	ISSUED FOR PRE-APPLICATION CONSULTATION (PAC). 29/05/26	JW	RW	BW
C01	ISSUED FOR RIBA STAGE 3 NOT FOR CONSTRUCTION 24/03/26	JW	RW	BW
P01	ISSUED FOR RIBA STAGE 3 20/03/26	JW	RW	BW

Client: KIER / Cyngor Bwrdeistref Sirol Pen-y-bont ar Ogwr / BRIDGEND County Borough Council

Project: HERONSBRIDGE SCHOOL

Cambria Project No. CC2856

Drawing Title: PROPOSED EXTERNAL WORKS GENERAL ARRANGEMENT

Drawing No. HER - CAM - ZZ - XX - D - C - 001100

Project | Originator | Function. B'down | Spatial B'down | Form | Disc. | Number

Scale @A1:	Status Code:	Revision Status:	Rev:
1:500	S3	REVIEW & COMMENT	P03

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Appendix D: Drainage Calculations

Greenfield runoff rate estimation tool

www.uksuds.com | Greenfield runoff rate estimation tool (https://www.uksuds.com/)

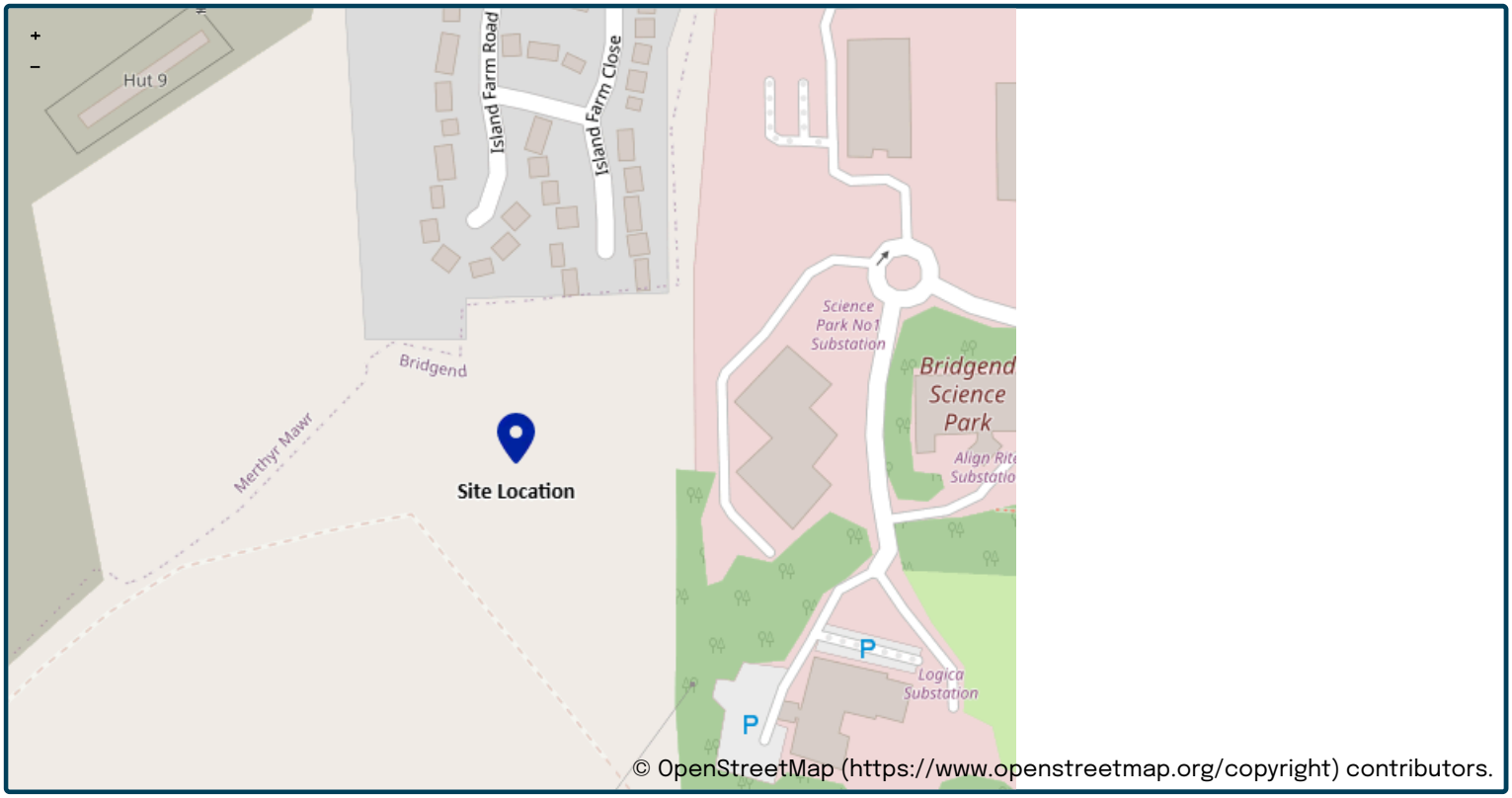
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	05/02/2026
Calculated by	Robert Wood
Reference	Heronsbridge School
Model version	2.2.2

Location

Site name	Heronsbridge School
Site location	Bridgend



Site easting (British National Grid)	290202
Site northing (British National Grid)	178282

Site details

Total site area (ha)	3.53 ha

Greenfield runoff

Method

Method	FEH statistical (2025)

FEH statistical (2025)

	My value		Map value
SAAR9120 (mm)	1206 mm		
BFIHOST19scaled	0.798		
QMed-QBar conversion	1.075		1.075
QMed (l/s)	7.2 l/s		
QBar (FEH statistical 2025) (l/s)	7.7 l/s		

Growth curve factors

	My value		Map value
Hydrological region	9		9
1 year growth factor	0.88		
2 year growth factor	0.93		
10 year growth factor	1.42		
30 year growth factor	1.78		
100 year growth factor	2.18		
200 year growth factor	2.46		

Results

Method	FEH statistical (2025)
Flow rate 1 year (l/s)	6.8 l/s
Flow rate 2 year (l/s)	7.2 l/s
Flow rate 10 years (l/s)	10.9 l/s
Flow rate 30 years (l/s)	13.7 l/s
Flow rate 100 years (l/s)	16.8 l/s
Flow rate 200 years (l/s)	18.9 l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent 'zero' figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.2) developed by HR Wallingford and available at uksuds.com (https://www.uksuds.com/). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (https://www.uksuds.com/terms-conditions). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

CC2856
Heronsbridge School

SuDS Calculations: Water Quality & Interception

Document Control Table			
Doc. No.	HER-CAM-ZZ-XX-T-C-000503	**Date**	15/05/2026
Checked	R. Wood	**Revision**	P01 – Original Issue
Approved	B. Whyman	**Suitability**	S3 – For Review & Comment

Revision History					
Status	**Revision**	**Date**	**Description**	**Checked by**	**Approved by**
S3	P01	15/05/26	Original Issue	R. Wood	B. Whyman

1. Water Quality

1.1. Simple Index Approach (SIA) from the SuDS Manual (C753)

The below tables provide a summary of the proposed development land uses, their pollution hazard indices, and the proposed SuDS mitigation measures used on the site to comply with the Simple Index Approach treatment methodology presented in the CIRA SuDS Manual.

Ref. Ciria SuDS Manual Table 26.2

Pollution Hazard Indices for Proposed Development Land Uses				
Land Use	**Pollution Hazard Level**	**Total Suspended Solids (TSS)**	**Metals**	**Hydrocarbons**
Other (non-residential) Roofs	Low	0.3	0.4*	0.05
Non-residential car parking with frequent change. (This Land Use has been considered for the School Car Park and Drop-off as there will likely be >300 vehicle movements per day)	Medium	0.7	0.6	0.7

*Assumes proposed roof material has low potential for metals to leach from the roof into the runoff.

Ref. Ciria SuDS Manual Table 26.3

SUDS Mitigation Indices for Discharges to Surface Waters			
SuDS Component	**Total Suspended Solids (TSS)**	**Metals**	**Hydrocarbons**
Bioretention System (Raingarden)	0.8	0.8	0.8
Permeable Paving	0.7	0.6	0.7
Swale	0.5	0.6	0.6
Detention Basin	0.5	0.5	0.6

1.2. Simple Index Approach (SIA) – Proposed Treatment Trains

The below figures, produced with the HR Wallingford SIA calculation tool (available online), demonstrate that the proposed SuDS features for the scheme shall provide sufficient treatment for the surface water runoff from each proposed development land use.

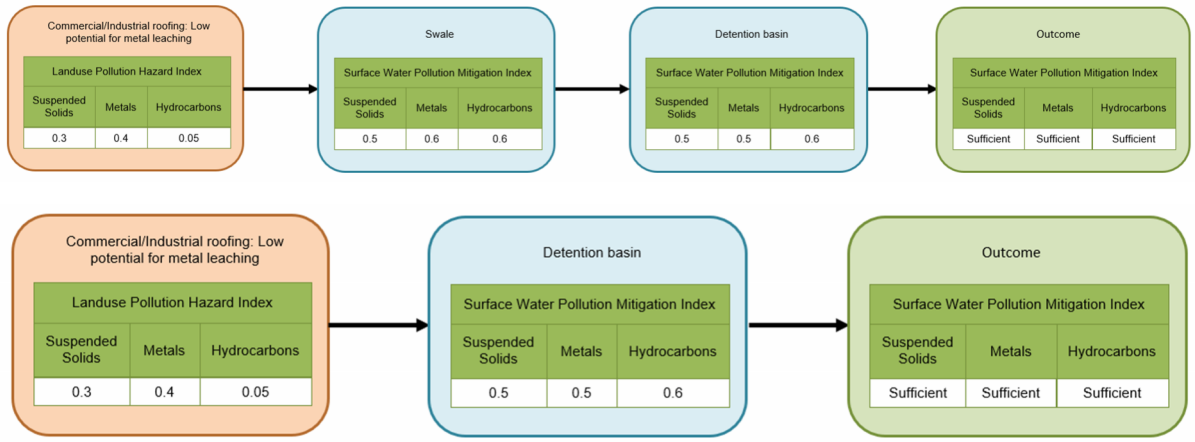


Figure 1 – Simple Index Approach Treatment Trains for Roof Catchment Areas

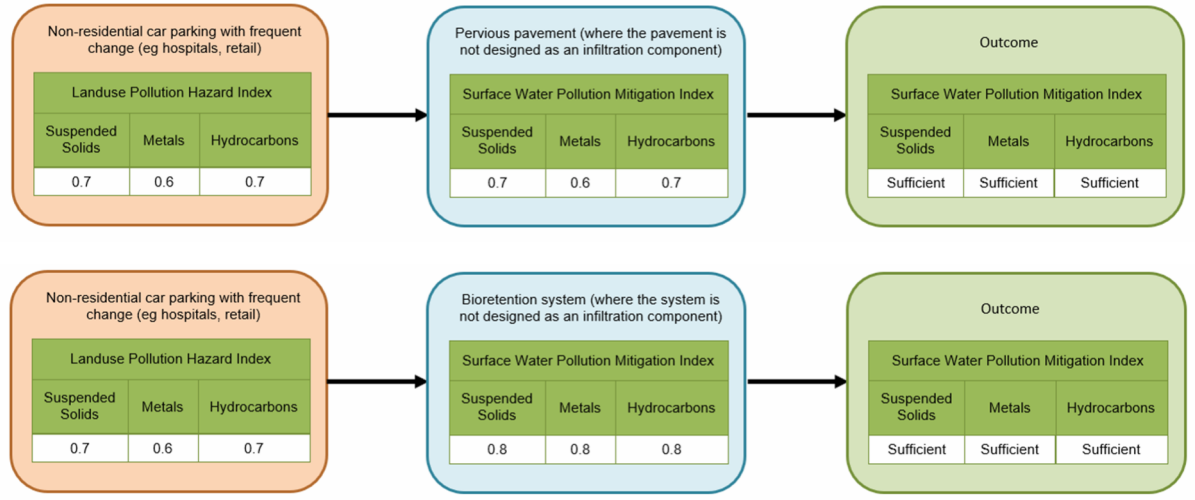


Figure 2 – Simple Index Approach Treatment Trains for External Areas and Car Parking Areas

2. Interception

The below technical commentary and calculations assess the extent to which the proposed SuDS features on the Heronsbridge site satisfy interception criteria, as set out within the Welsh Government Statutory Standards for SuDS (2018).

2.1. Interception Mechanisms

To achieve Standard S2, the Welsh Government SuDS Standards require consideration of hydraulic control through:

- Runoff rate control
- Volumetric control
- Rainfall interception

The standards identify SuDS features that may contribute towards achieving zero runoff for the first 5mm of rainfall for 80% of summer events and 50% of winter events. The following interception mechanisms have been incorporated into the Heronsbridge drainage strategy:

- Rainwater Harvesting systems
- Lined Raingardens / Bioretention areas
- Dry Swales and Filter Drains
- Detention Basins
- Permeable Car Park Areas
- Permeable Surfaces, including the MUGA and AWP

The Heronsbridge site is underlain by karstic limestone geology, with the Terra Firma Tier 2 Ground Investigation identifying a risk of limestone solution features and associated ground instability. On this basis, infiltration-based SuDS / drainage features are not considered appropriate for the development.

Introducing concentrated volumes of surface water into the ground could increase the risk of dissolution, localised subsidence, and potential impacts on the underlying groundwater regime. Therefore, all SuDS features, attenuation systems, permeable paving, and permeable surfaces are proposed to be impermeably lined.

This approach is appropriate from a geotechnical and hydrogeological risk perspective; however, it limits the extent to which the SuDS strategy can achieve interception through infiltration.

As a result, the interception strategy relies on a combination of rainwater harvesting systems, lined bioretention features, dry swales, detention basins, permeable surfaces with lined sub-bases, and evapotranspiration from vegetated SuDS features.

2.2. Interception Calculations – Lined SuDS Features

Lined SuDS features generally provide reduced interception capability compared with unlined features, as runoff cannot infiltrate into the surrounding ground. Instead, interception is achieved through temporary storage, evapotranspiration, surface wetting, vegetation uptake, and filtration through planting media.

For Heronsbridge, this limitation is considered unavoidable and justified, due to the underlying karstic geology and requirement to prevent uncontrolled infiltration. The use of impermeable liners risk mitigation measure to protect against ground instability and potential groundwater impacts.

The below interception calculations have been produced based on all SuDS features installed with impermeable liners, using the appropriate contributing area factors from the Welsh Government SuDS Standards.

Interception Calculations for Lined SuDS Features		
SuDS Component	**SuDS Area (m^2)**	**Interception Area (m^2)** ***Area x5 where applicable***
Lined Basins (500mm topsoil)	995	**4,975**
Bioretention Systems (Raingardens)	1025	**5,125**
Dry Swales	430	**2,150**
Permeable Car Parking Area	**4,980**	N/A – only self-serving due to liner
Permeable MUGA	**700**	N/A – only self-serving due to liner
Permeable All-Weather Pitch	**2,625**	N/A – only self-serving due to liner
RWH Tank (Serves Eastern Roof Area)	**2,015**	N/A – only serves eastern roof area
Total Site Impermeable Area (m^2)		**30,860**
Total Area of Interception (m^2)		**22,570**
Total % Interception Delivered		**73.1%**

2.3. Theoretical Interception Calculations – Unlined SuDS Features

Unlined SuDS features typically provide much greater interception benefits, due to the additional contribution from infiltration into the ground.

In some cases (such as for detention basins), areas up to 25 times can be assumed to meet interception requirements. For comparison only, the below calculation demonstrates that unlined features would be fully compliant with the in accordance with the interception criteria presented in the WG SuDS Standards Table G2.1.

Theoretical Interception Calculations for Unlined SuDS Features			
SuDS Component (Assume Unlined)	**SuDS Area (m^2)**	**Interception Area (m^2)** ***Area x5 where applicable***	**Interception Area (m^2)** ***Area x25 where applicable***
Detention Basins (500mm topsoil)	995	-	**24,875**
Bioretention Systems (Raingardens)	1025	**5,125**	-
Dry Swales	430	-	**10,750**
Permeable Car Parking Area	4,980	**24,900**	
Permeable MUGA	**700**	N/A – only self-serving due to sports pitch requirements	
Permeable All-Weather Pitch	**2,625**		
RWH Tank (Serves Eastern Roof Area)	**2,015**	N/A – only serves eastern roof area	
Total Site Impermeable Area (m^2)		**30,860**	
Total Area of Interception (m^2)		**70,990**	
Total % Interception Delivered		**230%**	

2.4. Interception Calculations – Conclusions

The Heronsbridge drainage strategy has been developed to maximise rainfall interception through a combination of rainwater harvesting, lined bioretention features, dry swales, detention basins, permeable surfaces with lined sub-bases, and vegetated SuDS features.

Based on the above calculations, the proposed drainage strategy achieves approximately **73%** compliance with the interception criteria presented in Table G2.1 of the Welsh Government SuDS Standards.

Although full interception is not achieved, this is considered justified due to the site's karstic limestone geology and associated risk of dissolution, localised subsidence, ground movement, and groundwater impacts. Infiltration-based SuDS have therefore been discounted, with all SuDS features and permeable surfaces proposed to be impermeably lined. If the SuDS features on site were not required to be lined, full interception of the runoff generated by the site would likely be achievable. Further calculations can be provided during the detailed design stage to justify interception and treatment on the Heronsbridge site.

The calculations confirm that the proposed strategy maximises interception as far as reasonably practicable, while balancing the site-specific geotechnical constraints, long-term ground stability, water quality, and wider site constraints.