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DRAINAGE STRATEGY REPORT
RESIDENTIAL DEVELOPMENT AT
FORMER TONMAWR PRIMARY SCHOOL
TONMAWR
NEATH
SA12 9UW
JOB No.: 20775

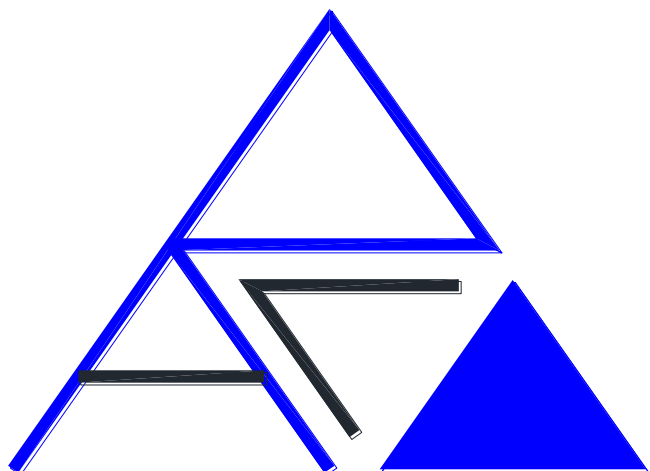
VERSION 01

Roger Casey Associates
Consulting Civil & Structural Engineers

Ty Mansel 6 Mansel Street Carmarthen
Carmarthenshire SA31 1PX
Tel: +44 (0) 1267 22 26 46

Units 10 & 11 Merlin's Court Winch Lane
Haverfordwest Pembrokeshire SA61 1SB
Tel: +44 (0) 1437 76 27 95

Email: office@rca-eng.co.uk
Website: <http://www.rca-eng.co.uk>



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FOR

RESIDENTIAL DEVELOPMENT AT

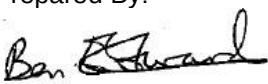
**FORMER TONMAWR PRIMARY
SCHOOL**

TONMAWR

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SA12 9UW

Job No.: 20775

Prepared By:	Date:
	May 2022
Checked By:	Date:
	May 2022
Approved By:	Date:
	May 2022



Roger Casey Associates

Consulting Civil & Structural Engineers

Ty Mansel 6 Mansel Street Carmarthen Carmarthenshire SA31 1PX

Tel: +44 (0) 1267 22 26 46

Fax: +44 (0) 1267 22 13 77

Email: office@rca-eng.co.uk

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ROGER CASEY ASSOCIATES LTD.

MAY 2022

DOCUMENT REVISION RECORD

Version	Description	Date	Originator	Approver
01	Draft	16/05/2022	BWE	PWJL

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Appendix D

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Appendix E

- Dwr Cymru Welsh Water Sewer Record Plan

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ROGER CASEY ASSOCIATES LTD.

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1.0 INTRODUCTION

Roger Casey Associates have been instructed by Mr D. John to prepare a Drainage Strategy Report for a new residential development at the former Tonmawr Primary School.

The Report is intended to support the PAC process only and to inform scope relating to proposed drainage solutions.

The purpose of this report is to describe the existing site and associated drainage infrastructure and to identify a sustainable solution for the proposed foul and surface water drainage to serve the new development.

The National Grid Reference of the approximate centre point of the proposed development site is SS 80018 96254, Easting 280018, Northing 196254.

This Drainage Strategy Report is prepared to support the PAC application only and outlines the proposals to ensure all foul and surface water drainage design and management is carried out in accordance with current best practice and statutory guidelines and inform the detail drainage design stage.

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2.0 SITE CONDITIONS AND TOPOGRAPHY

The site is located on Tonmawr Road, Neath. Existing residential developments are located to the west and east. Tonmawr Road forms the southern site boundary and access into the land is from this road.

A copy of the site location plan is included in Appendix A.

The land rises from a low elevation in the southwest corner to a higher elevation along the northeast boundary.

A copy of the topographical site survey is included in Appendix B.

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3.0 **FLOOD RISK**

The proposed use of the site, residential, will classify the risk as being a 'Highly Vulnerable Development' (TAN 15, Figure 2). However, in accordance with Natural Resources Wales Flood and Welsh Government TAN 15 Development Advice Maps the site is located within an area designated being Flood Zone A.

A copy of the proposed architectural site plan is included in Appendix C.

In accordance with guidance contained within TAN 15, Figure 1, further flood risks and justification tests are not required to sites located within Zone A and sound drainage design incorporating aspects of Sustainable Urban Drainage Systems (SuDS) is applicable to the development.

National Resources Wales Flood Risk Map and Welsh Government TAN 15 Development Advice Map are included in Appendix D.

Planning Policy and Technical Advice Note (TAN) 15 lists six sources of flooding which need to be considered in the assessment of flood risk and the probability of flooding at the Site Location.

Flooding from Rivers or Fluvial

Not applicable - Flood Zone A as demonstrated on Flood Map in Appendix D.

Flooding from the Sea or Tidal Flooding

Not applicable - Flood Zone A as demonstrated on Flood Map in Appendix D.

Flooding from Land

Not applicable due to surface water management within the proposed drainage strategy leading to detail design. Proposed external ground formation/levels must form appropriate informal overland flow routes within the landscaping and external area design to safely transfer any flood water away from the proposed buildings and any other existing premises.

Flooding from Groundwater

No ground water was struck within the site investigation excavations. If groundwater is struck during further site investigations and/or construction excavations, suitable measures shall be undertaken to protect proposed and existing premises from this potential flood risk from this source.

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3.0 **FLOOD RISK (Continued)**

Flooding from Sewers

Not applicable due to foul and surface water management within drainage design. Notwithstanding blockage or catastrophic failure of drainage systems upstream of development site resulting in overland flows not being contained within kerb upstand heights, surface gradients, etc.

Where possible, floor levels will be kept above the level of the relevant adjacent roads and drives.

Flooding from Reservoirs, Canals and Other Artificial Sources

Not applicable due to Site Location and demonstrated on Flood Map in Appendix D.

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4.0

EXISTING DRAINAGE AND SITE INVESTIGATIONS

The existing DCWW sewer mapping is shown in Appendix E.

Foul Water Drainage

An existing DCWW combined sewer runs through the site, as well as existing foul drains which served the existing buildings on site. The main existing run will be kept in place and provided with a 3m easement either side. The remaining foul drains on site will be grubbed up and abandoned. A CCTV survey should be carried out on the existing drains to prove that abandonment of these drains will not affect other properties offsite.

Surface Water Drainage

On 7 January 2019, the Welsh Government implemented Schedule 3 of the Flood and Water Management Act (2010). The new mandatory regulations make the incorporation of sustainable drainage systems (SuDS) compulsory in new developments in order to help reduce flood risk and improve water quality. SuDS on new developments must be designed and built in accordance with the Statutory SuDS Standards published by the Welsh Ministers. Schemes must be approved by the Local Authority acting in the role of SuDS Approving Body (SAB) before construction begins.

For the purposes of this Drainage Strategy Report to support a PAC application, only the surface water runoff destination will be discussed to provide evidence to the LPA that a surface water drainage scheme on this site is achievable.

With reference to Standard S1 of the Statutory Sustainable Drainage Systems Standards, surface water runoff destination is considered in five priority levels:

Priority Level	Flow Destination
1	Surface water run-off is collected for use;
2	Surface water runoff is infiltrated to ground;
3	Surface water runoff is discharged to a surface water body;
4	Surface water runoff is discharged to a surface water sewer, highway drainage, or another drainage system;
5	Surface water runoff is discharged to a combined sewer.

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4.0 **EXISTING DRAINAGE AND SITE INVESTIGATIONS (Continued)**

Following investigations and in response to each of the Priority Levels:

1. Rainwater butt(s) will be provided to each dwelling to assist in recycling of rainwater for irrigation, car washing and other uses external of the dwelling. At this stage it is not envisaged to install underground pumped rainwater harvesting tank(s).
2. Soakaway testing was undertaken by Quantum Geotech as part of their Site Investigation commission in September 2020. Soakaway tests were not successful. Based on this, it is assumed that infiltration will not be practical as a method of dealing with surface water flows.
3. There is not a surface water body within practical distance of the site to discharge surface water into.
4. There is not a surface water sewer within practical distance of the site to discharge surface water into.
5. The existing surface water drains on site discharge into the DCWW combined sewer, assumed unrestricted. It is proposed that the surface water run-off from this development will discharge into the combined sewer at a restricted rate.

Following consideration of the available surface water destination, it is envisaged the following SuDS features could be incorporated into the final development site to meet Welsh Government SuDS Standards:

- Kerb drainage system leading to shallow attenuation basins.
- Rainwater butts on plot.
- Drives and parking areas laid in permeable surfaces.
- Flow controls to restrict run-off from site.

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5.0 **PROPOSED DRAINAGE STRATEGY AND SUMMARY**

The site will be served by separate foul and surface water drainage systems discharging as follows based on existing drainage and site investigations outlined above. The Proposed Drainage Plan is shown in Appendix F.

Foul Water Drainage

All foul water drainage flows will be collected from the proposed development via a new gravity sealed pipe system and connected into the existing combined public sewer system in the south of the site. This assumes capacity is available within the public sewer system.

Where the new foul water drainage system lies outside of the legal curtilage of the proposed dwellings it will need to be adopted by Dwr Cymru Welsh Water under a Water Industry Act Section 104 Adoption Agreement between DCWW and the Developer.

Connection to the public sewer will be subject to a Water Industry Act 1991 Section 106 application and will take the form of either a new chamber.

Surface Water Drainage

The proposed development's surface water drainage will have to comply with Welsh Government Statutory standards for sustainable drainage systems. These Standards are enforced by Neath Port Talbot County Council acting as the Sustainable urban Drainage System Approving Body (SAB).

As part of the detail design the surface water runoff destination, surface water runoff hydraulic control, water quality, amenity, biodiversity and design of drainage for construction, operation and maintenance must be considered. These are referred to as Standards S1 to S6. At this outline planning stage only standards S1 and S2 are being considered (surface water runoff destination and surface water runoff hydraulic control).

SuDS measures will be provided on plot and as part of the estate road construction to address SuDS Standards S1 to S6. On the basis of the unsuccessful soakaway testing, all surface water flows will discharge into the existing combined sewer at a restricted rate. Attenuation devices would be designed to accommodate the 6 hour 1:100-year return storm with +40% allowance for climate change.

Upstream of the attenuation devices, other SuDS measure would be employed. This would be determined as part of the detail surface water drainage design prepared for SAB Approval and approval of the planning application.

We envisage that the carriageways and footpaths, surface water drainage, along with the street lighting will be Adopted by NPT under a Highway Act Section 38 Agreement and SuDS Agreement between NPT and the Developer.

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Flooding

As noted in Section 3.0 the site is generally located in a low flood risk location considered by TAN 15.



Ben Edwards
Civil Engineer
for Roger Casey Associates

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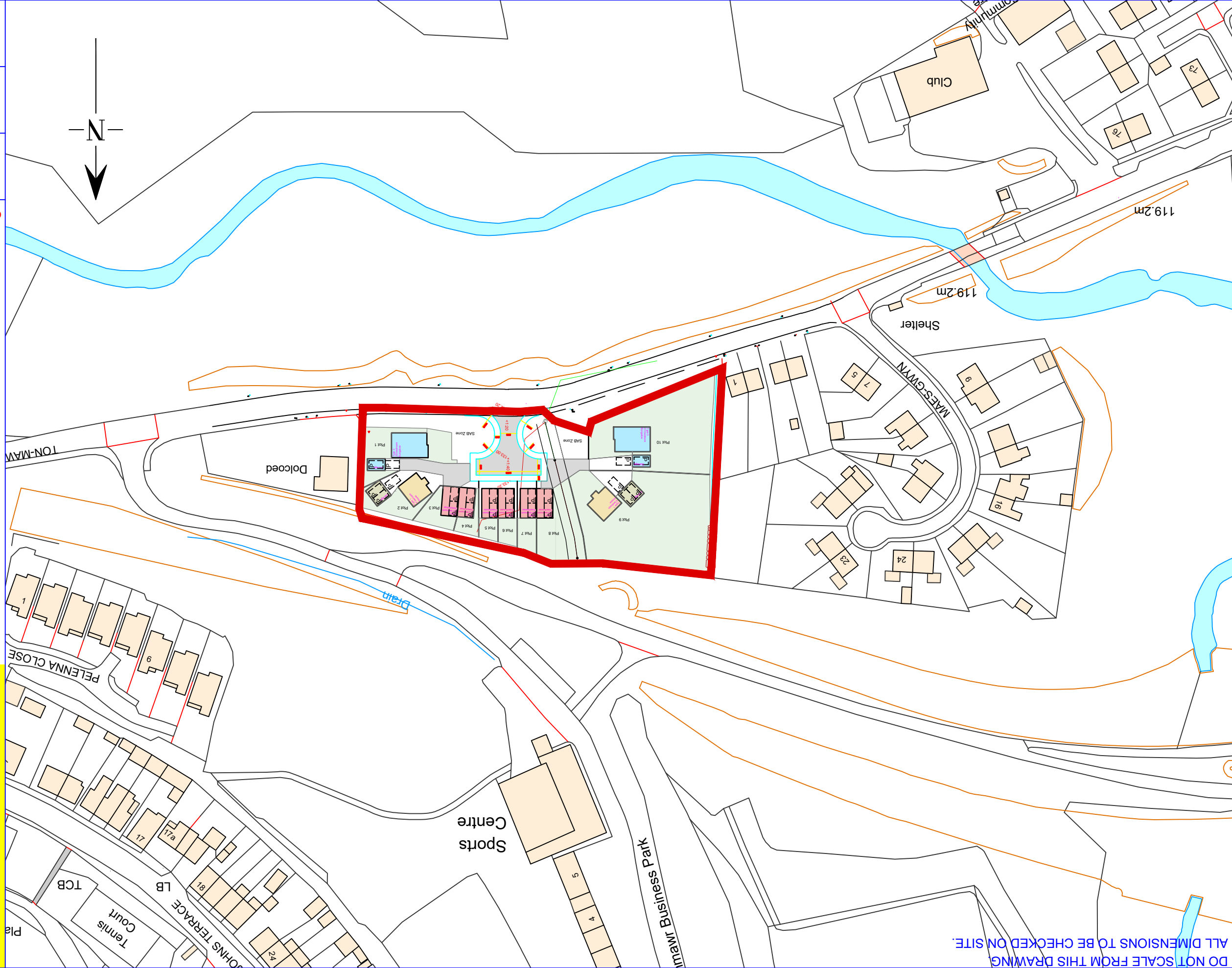
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APPENDIX A – SITE LOCATION PLAN

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DR Design

Davies Richards Design Ltd.

Llandello - 01558 823351

Mumbles - 01792 347692

E-MAIL - info@daviesrichardsdesign.com
WEB - www.daviesrichardsdesign.com

WEB - www.daviesricharddesign.com

JOB TITLE :

Mr. D. John,
Proposed redevelopment
at:
Tonmawr Primary School,
Tonmawr Road,
Port Talbot,
SA12 9UW.

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DRAWING TITLE :

DRAWING STATUS :

Planning.

Original paper size - A3

SCALE :

1:1250.

DRAWN BY :

G.R.R.

Feb. '22.

PLAN No

1778-01

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DRAINAGE STRATEGY REPORT FOR
RESIDENTIAL DEVELOPMENT AT FORMER PRIMARY SCHOOL,
TONMAWR, NEATH SA12 9UW

ROGER CASEY ASSOCIATES LTD.

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APPENDIX B – TOPOGRAPHICAL SURVEY PLAN

SURVEY STATIONS			
Name	Eastng	Northing	Height
SN01	280507.522	196257.827	138.207
SN02	280336.549	196268.920	138.904
SN03	280008.615	196268.838	137.971
SN04	280120.254	196256.616	135.634
SN05	280029.208	196256.570	136.376
SN06	280054.311	196250.591	135.571
SN07	280200.181	196240.807	131.492
SN08	279940.054	196232.291	124.311

REV.	DESCRIPTION	DRAWN	CHECK	DATE
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**Roger Casey
Associates**

Consulting Civil &
Structural Engineers

Ty Mansel, 6 Mansel Street,
Carmarthen,
Carmarthenshire SA31 1PX

T: 01267 222 646

Units 10 & 11, Merlin's Court,
Winch Lane, Haverfordwest,
Pembrokeshire SA61 1SB

T: 01437 762 795

E: office@rca-eng.co.uk

W: www.rca-eng.co.uk

ARCHITECTURAL CONSULTANT:

D R DESIGN LLANDEILO	DR Design Architectural Services Davies Richards Design Ltd.
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DRAWING TITLE:

EXISTING SITE SURVEY PLAN

DRAWN BY: PWJL	DESIGN BY: -	CHECKED BY: RSC	DATE: 17/06/2020
SCALE: 1:250	DRAWING No.: 20775/01		REVISION:

ORIGINAL DRAWING A1
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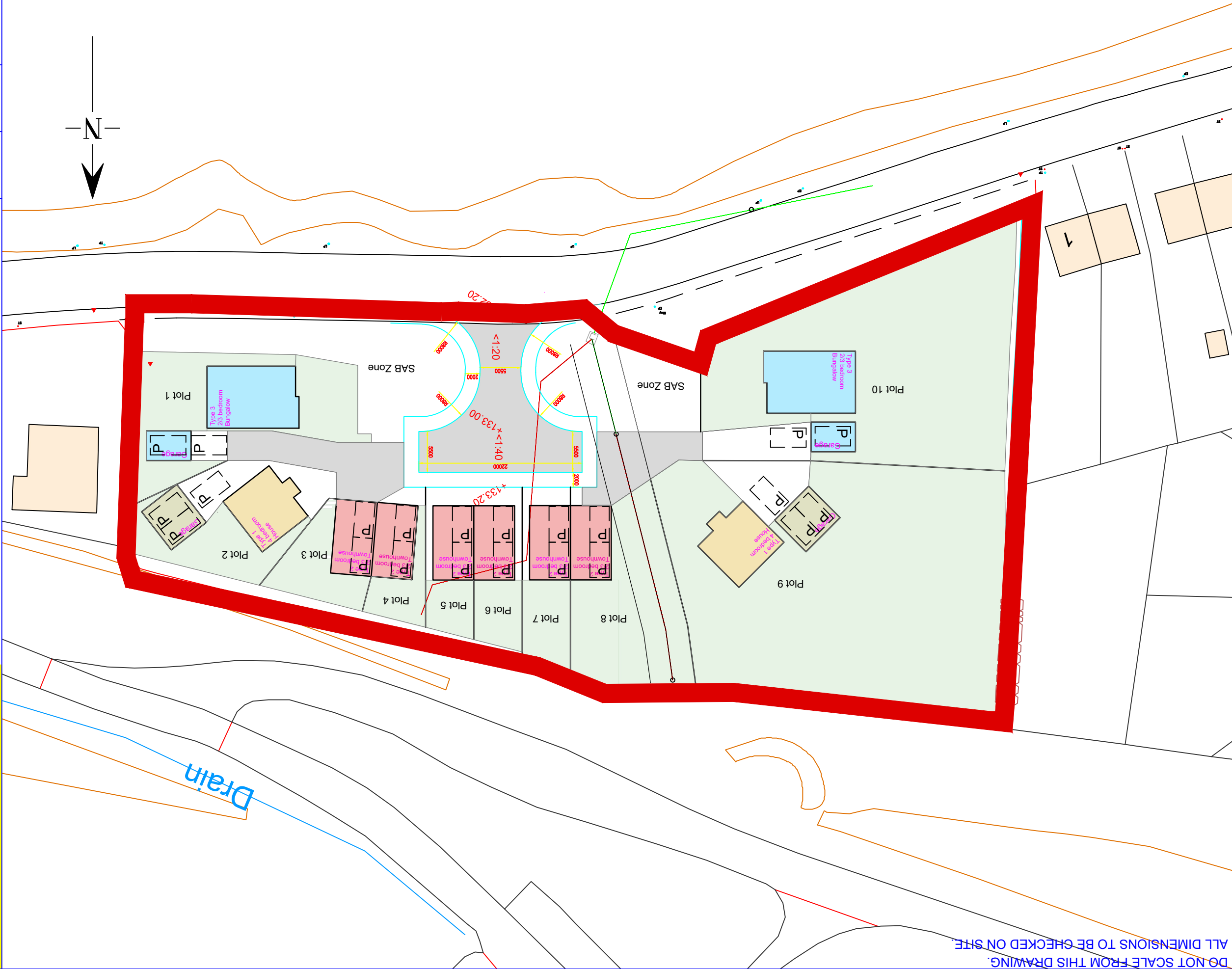
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APPENDIX C – PROPOSED ARCHITECTURAL SITE PLAN

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Proposed redevelopment
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Port Talbot,
SA12 9UW.

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Block Plan.

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Planning.

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DRAWN BY :

G.R.R.

DATE : Feb. '22.

PLAN No

1778-03

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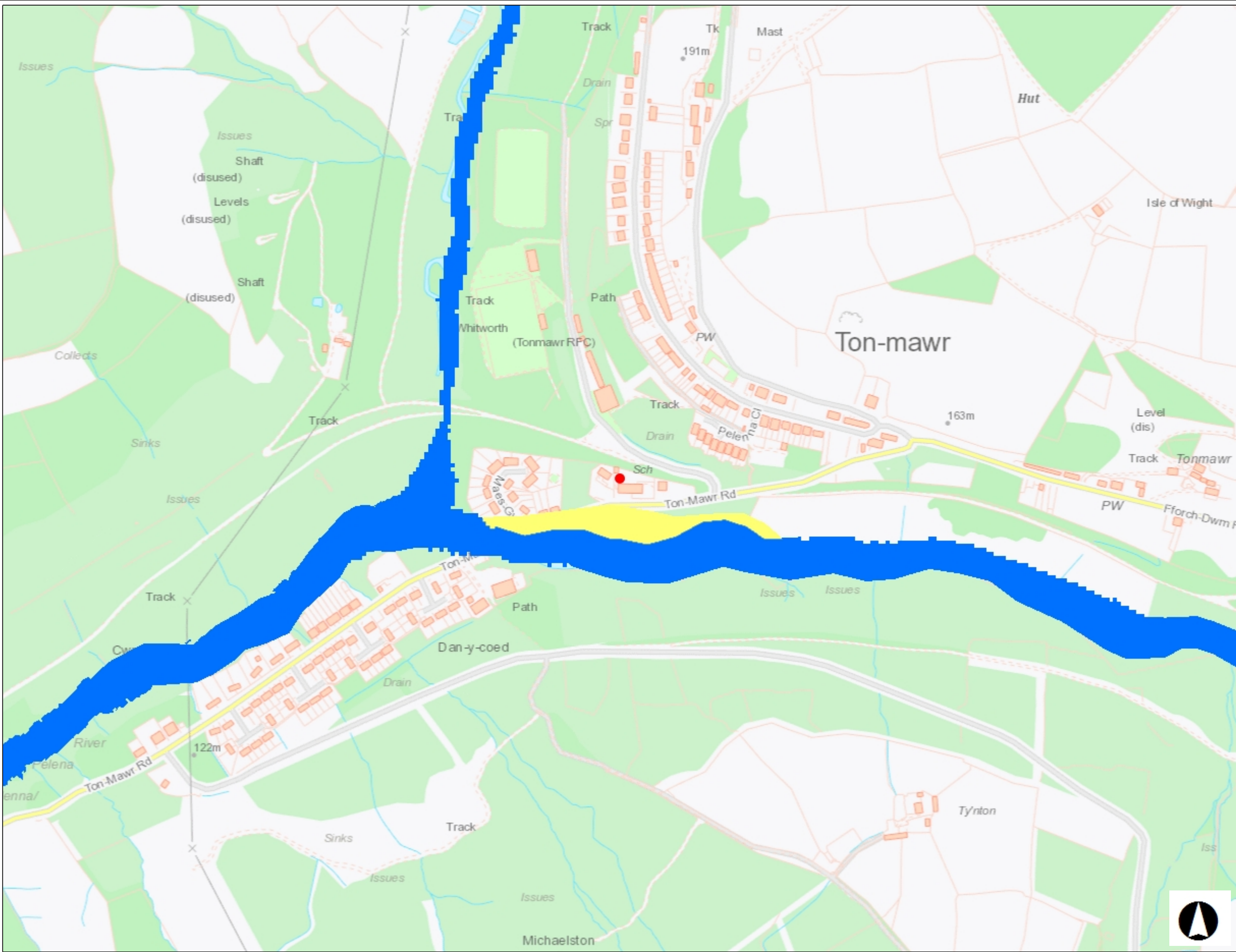
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**APPENDIX D – NATURAL RESOURCES WALES FLOOD RISK MAP AND
WELSH GOVERNMENT TAN 15 DEVELOPMENT ADVICE MAP**

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Map Perygl Llifogydd / Flood Risk Map -

- Allwedd / Map Key
- Zone C1
 - Zone C2
 - Zone B
 - Zone A

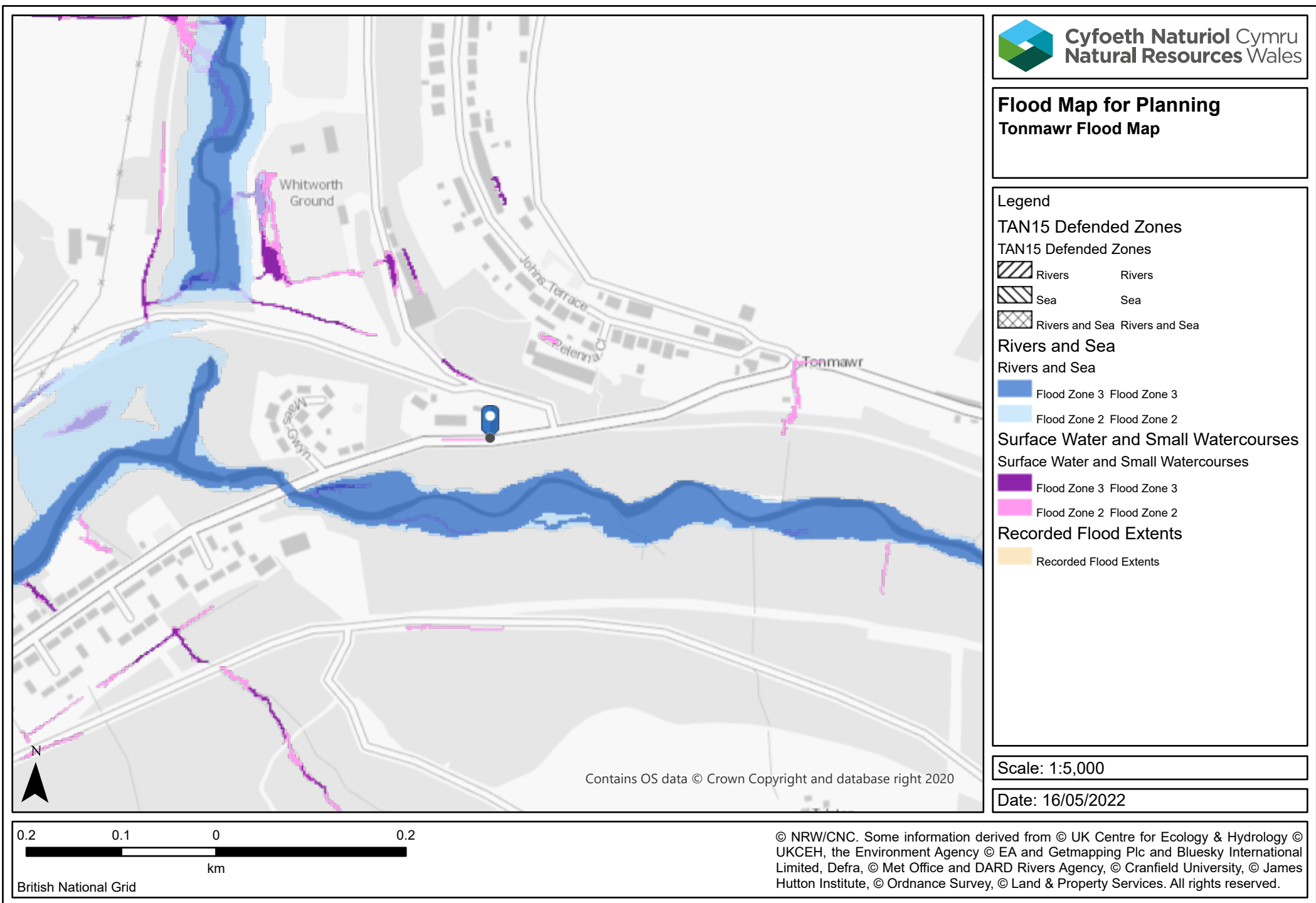
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Dyddiad / Date
16/05/2022



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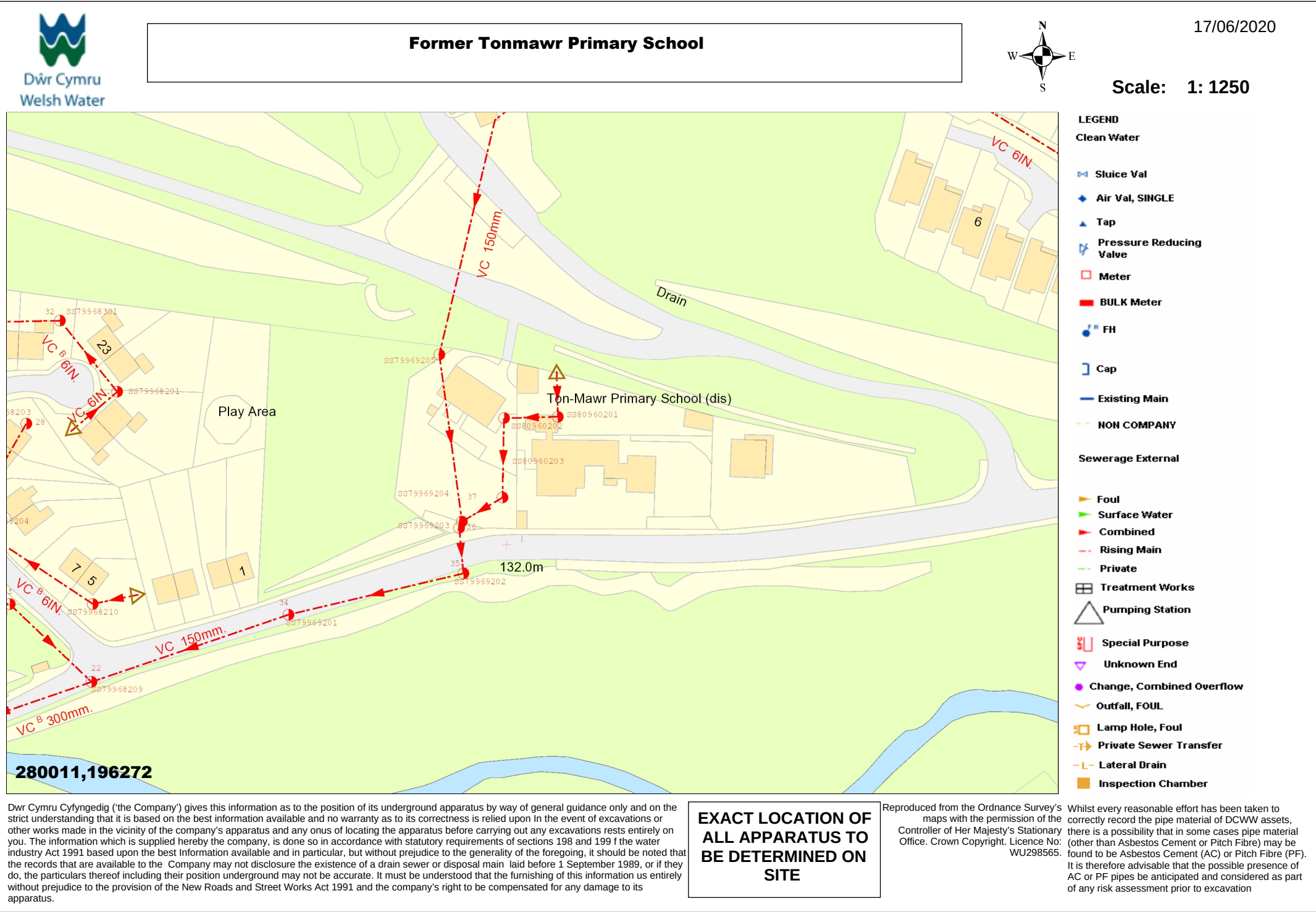
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APPENDIX E – DWR CYMRU WELSH WATER SEWER RECORD PLAN

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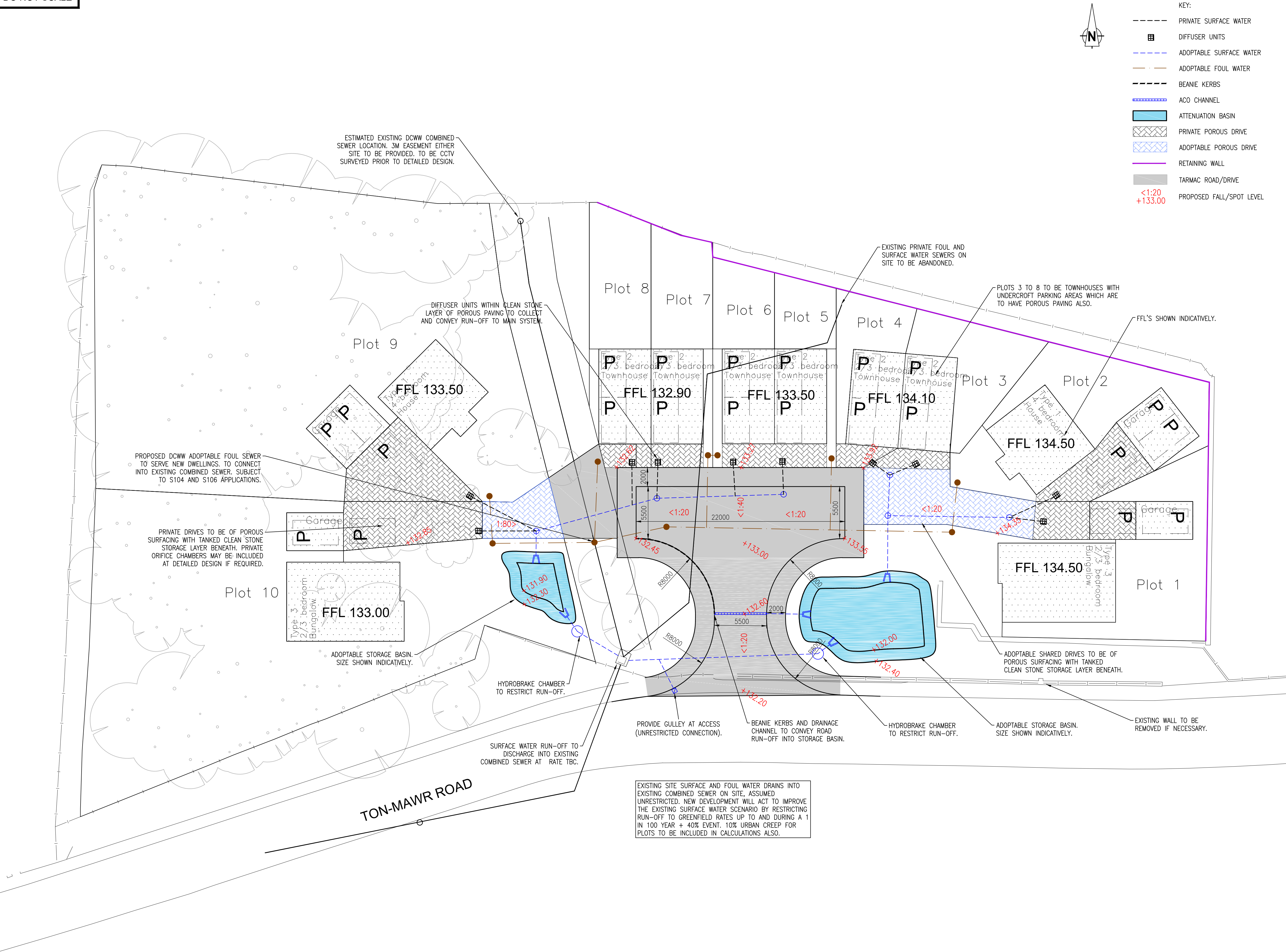
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APPENDIX F – PROPOSED DRAINAGE PLAN

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RCA Document Reference: RCA A1 Landscape Version 1
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- KEY:
- PRIVATE SURFACE WATER
 - DIFFUSER UNITS
 - ADOPTABLE SURFACE WATER
 - ADOPTABLE FOUL WATER
 - BEANIE KERBS
 - ACO CHANNEL
 - ATTENUATION BASIN
 - PRIVATE POROUS DRIVE
 - ADOPTABLE POROUS DRIVE
 - RETAINING WALL
 - TARMAC ROAD/DRIVE
 - <1:20
 - +133.00
 - PROPOSED FALL/SPOT LEVEL

NOTES:

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DRAWING STATUS:
PRELIMINARY

Roger Casey Associates
Consulting Civil & Structural Engineers

Ty Mansel, 6 Mansel Street,
Carmarthen,
Carmarthenshire SA31 1PX

T: 01267 222 646

Units 10 & 11, Merlin's Court,
Winch Lane, Haverfordwest,
Pembrokeshire SA61 1SB

T: 01437 762 795

E: office@rca-eng.co.uk

W: www.rca-eng.co.uk

CLIENT:

Mr DAVID JOHN

ARCHITECTURAL CONSULTANT:

**D R DESIGN
LLANDEILO**

DR Design
Architectural Services
Davies Richards Design Ltd.

PROJECT:

**RESIDENTIAL DEVELOPMENT AT
Fmr. TONMAWR PRIMARY SCHOOL
TONMAWR, NEATH SA12 9UW**

DRAWING TITLE:

**PROPOSED
DRAINAGE PLAN**

DRAWN BY: BWE	DESIGN BY: BWE	CHECKED BY: PWJL	DATE: 17/05/2022
SCALES: 1:200	DRAWING No.: 20775/P1	REVISION:	

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