

Vale of Glamorgan Local Development Plan 2011-2026

Plan Preparation and the Assessment of Flood Risk



Background Paper

2015



Local
Development
Plan

Cynllun
Datblygu
Lleol

2015 Update

In January 2015 the Welsh Government issued revised Development Advise Maps (DAM). In addition, the Vale of Glamorgan Council has determined a number of planning applications relating to sites allocated within the Deposit Local Development Plan.

The background paper has been updated to reflect the revised information from the Welsh Government and the recent planning decisions.

Contents

1	Introduction	1
2	Planning Policy and Guidance on Flood Risk	1
2.1	Planning Policy Wales Edition 7 (July 2014) (PPW)	1
2.2	Technical Advice Note 15: Development and Flood Risk (2004)	1
3	Assessment of Flood Risk in the Preparation of the Vale of Glamorgan Local Development Plan	3
3.1	LDP Strategy	3
3.2	Candidate Site Assessment and Flood Risk	5
3.3	Consideration of Surface Water Flooding	6
3.4	Dwr Cymru Welsh Water Consultations	7
4	Consideration of Flood Risk on Other Sites	9
5	Conclusions	9
	Appendices and Maps	
Appendix 1	Summary of Flood Consequence Assessments Undertaken for Allocated Candidate Sites	11
Appendix 2	Proposed Site and Analysis of Flooding Issues	13
Appendix 3	Allocated Residential & Employment Site Plans showing Development Advice Maps – Flood Zones and Surface Water Flood Maps	77
Map 1	Flood Risk Zones in the Vale of Glamorgan (TAN15 – Development Advices Map Zones)	4
Map 2	Surface Water Flood Map (Areas Susceptible to Surface Water Flooding in the Vale of Glamorgan)	8

1. Introduction

- 1.1 This background paper is one of a series produced by the Vale of Glamorgan Council and forms part of the evidence base used to inform the policies and site allocations in the Deposit Local Development Plan (LDP). Each background paper can be read in isolation or together with other background papers to gain a wider understanding of the land use issues facing the Vale of Glamorgan.
- 1.2 This paper sets out the Council's response to the policy requirements for flooding as contained within Technical Advice Note (TAN) 15 Development and Flood Risk (July 2004) and outlines how the Council has considered flood risk in relation to the assessment of the candidate sites promoted through the LDP process.

2. Planning Policy and Guidance on Flood Risk

2.1 Planning Policy Wales (Edition 7, July 2015) (PPW)

- 2.1.1 In exercising its functions, the Council has a duty to promote sustainable development. The LDP has a key role to play in the delivery of this by identifying land for new homes, infrastructure, employment and services in a way that is consistent with sustainable development principles (Section 2.1.2 of Planning Policy Wales refers).
- 2.1.2 In relation to development in areas at risk from flooding, PPW advises that local planning authorities should adopt a precautionary approach in the determination of planning applications and also in the preparation of development plans via the avoidance of development in areas defined as being at risk from flooding (paragraph 13.3.1 refers).

2.2 Technical Advice Note 15: Development and Flood Risk (2004)

- 2.2.1 TAN15: Development and Flood Risk (July 2004) advises caution with regard to new development in areas at high risk of flooding by setting out a precautionary framework to guide planning decisions. The overarching aim of the precautionary framework is (in order of preference) to:
- Direct new development away from those areas which are at high risk of flooding.
 - Where development has to be considered in high risk areas (zone C) only those developments that can be justified on the basis of the tests set out in the TAN should be located in these areas.
- 2.2.2 The operation of the precautionary framework is governed by Development Advice Maps (DAM) prepared by the Welsh Government which indicates where flood risk issues need to be taken into account in planning future development. The latest DAM (January 2015) contain three zones (A, B and C with subdivision into C1 and C2) as shown below:

Flood Zone	Definition	Use within precautionary framework
A	Considered to be at little or no risk of fluvial/ tidal flooding.	Used to indicate that justification test is not applicable and no need to consider flood risk further.
B	Areas known to have been flooded in the past Evidenced by sedimentary deposits.	Used as part of a precautionary approach to indicate where site levels should be checked against the extreme (0.1%) flood level. If site levels are greater than the flood levels used to define adjacent extreme flood outline there is no need to consider flood risk further.
C	Based on Environment Agency extreme flood outline equal to or greater than 0.1% (river tidal or coastal)	Used to indicate that flooding issues should be considered as an integral part of the decision making by the application of the justification test, including assessment of consequences.
C1	Areas of the floodplain which are developed and served by significant infrastructure, including flood defences	Used to indicate that development can take place subject to the application of justification test, including acceptability of consequences.
C2	Areas of the floodplain without significant flood defence infrastructure	Used to indicate that only less vulnerable development should be considered subject to the application of the justification test, including acceptability of consequences. Emergency services and highly vulnerable development should not be considered

2.2.3 TAN 15 also categorises land uses with regard to their vulnerability, as set out below:

Development Category	Types
Emergency Services	hospitals, ambulance stations, fire stations, police stations, coast guard stations, command centres, emergency depots and buildings used to provide emergency shelter in times of flood
Highly Vulnerable Development	all residential premises (including hotels and caravan parks), public buildings (e.g. schools, libraries, leisure centres), especially vulnerable industrial development (e.g. power stations, chemical plants, incinerators), and waste disposal sites
Less Vulnerable Development	General industrial, employment, commercial and retail development, transport and utilities infrastructure, car parks, mineral extraction sites and associated processing facilities, excluding waste disposal sites

2.2.4 TAN 15 advises that highly vulnerable development and emergency services should not be permitted within zone C2. All other new development within zones C1 and C2 should only be permitted where it can be justified in that location. In justifying the proposed development, it should be demonstrated that:

- Its location in zone C is necessary to assist, or be part of, a local authority regeneration initiative or a local authority strategy required to sustain an existing settlement; or,
- Its location in zone C is necessary to contribute to key employment objectives supported by the local authority, and other key partners, to sustain an existing settlement or region; and

- It concurs with the aims of PPW and meets the definition of previously developed land (PPW fig 2.1); and,
- The potential consequences of a flooding event for the particular type of development have been considered, and are found to be acceptable.”

2.2.5 An explanation of how the guidance contained in TAN 15, and in particular, how the precautionary approach has been incorporated within the preparation of the Deposit LDP is set out below.

3. Assessment of Flood Risk in the Preparation of the Vale of Glamorgan Local Development Plan

3.1 LDP Strategy

3.1.1 As part of the LDP process¹, the Council has prepared a Sustainability Appraisal (SA) of the Deposit LDP, incorporating the requirements of the Strategic Environmental Assessment Directive^{2 3}. This has allowed the Council to ensure that the LDP includes suitable mitigation measures to minimise any negative effects and maximise the positive effects of future development.

3.1.2 At the scoping stage of the SA, the Council examined relevant social, economic and environmental information for the Vale of Glamorgan, including the Welsh Government DAMs. These highlight that some areas within the Vale of Glamorgan are affected by flood risk (Map 1 below)⁴.

3.1.3 Acknowledging that flooding should be a consideration for the Vale's LDP, the Vale's LDP SA seeks *“To reduce the risk of flooding and its impact on public well being, the economy and the environment”*, thereby ensuring that the issue of flood risk is considered during the LDP preparations.

3.1.4 The Council's LDP Strategy for the Vale of Glamorgan is:

“To promote development opportunities in Barry and the South East Zone. The St Athan area to be a key development opportunity and Cardiff Airport to be a focus for transport and employment investment. Other sustainable settlements to accommodate further housing and associated development”

3.1.5 Recognising that some settlements within the South East Zone and within the Rural Vale are partially affected by flooding as indicated on Map 1, objective 2 of the LDP aims *“To ensure that development within the Vale of Glamorgan makes a positive contribution towards reducing the impact of, and mitigating the adverse effects of climate change”*.

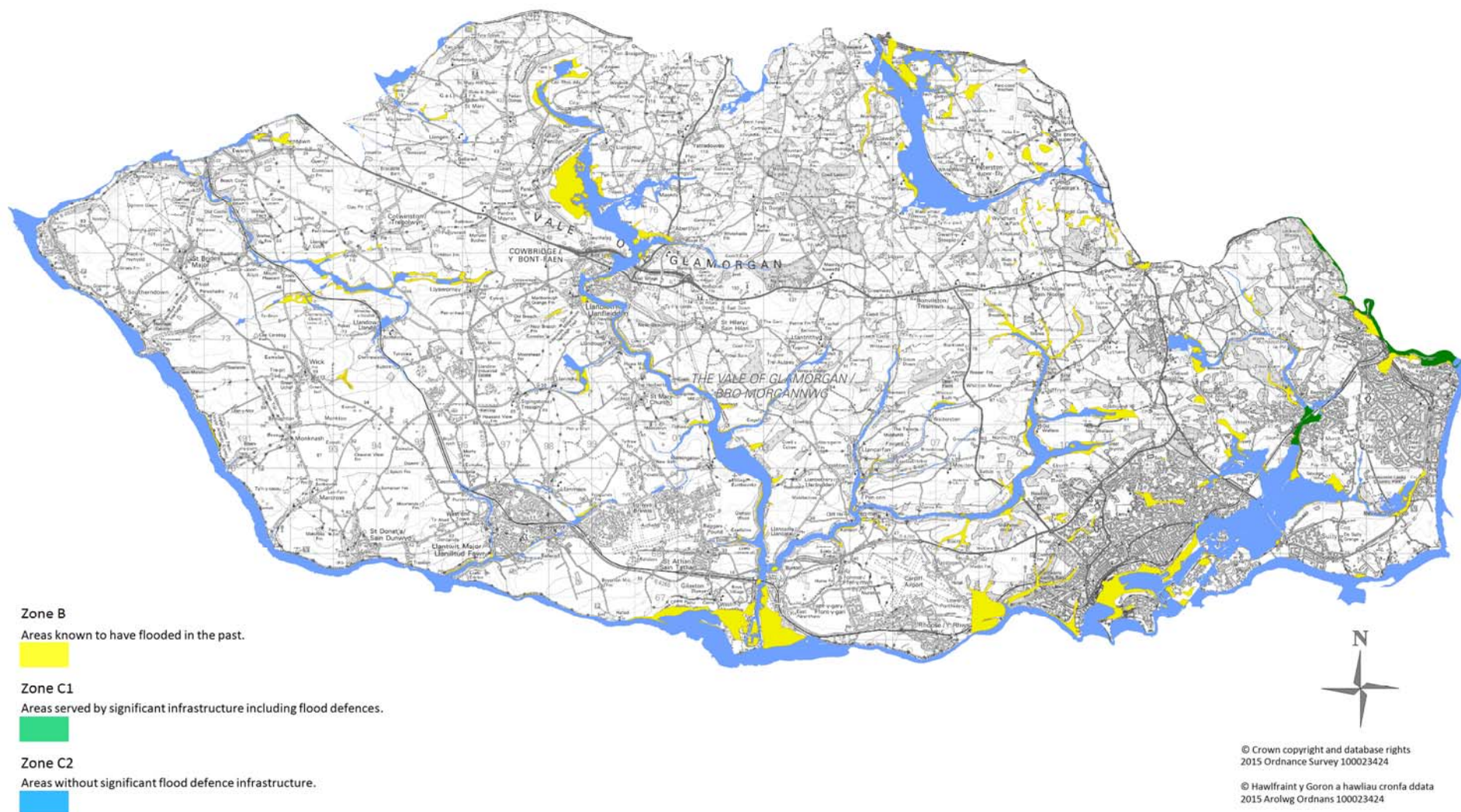
¹ Planning and Compulsory Purchase Act, 2004

² Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, June 2001

³ Environmental Assessment of Plans and Programmes (Wales) Regulations 2004

⁴ Appendices 1 highlight there are some 423 properties at risk to flooding within the Vale of Glamorgan.

Map 1: Flood Risk Zones in the Vale of Glamorgan (TAN 15 – Development Advice Map Zones)



3.2 Candidate Site Assessment and Flood Risk

- 3.2.1 The LDP Manual advises that early consideration should be given to engagement with developers and landowners on potential sites to be included within the new LDP system, in order to avoid substantial numbers of additional sites coming forward at the Examination stage.
- 3.2.2 Between the 4th December 2006 and 31st January 2007, the Council invited developers, landowners and other interested parties to nominate “candidate sites” for potential inclusion in the emerging LDP. Sites were accepted until the 27th February 2008 which coincided with the end of the consultation on the Draft Preferred Strategy and Initial Sustainability Appraisal Report. Sites received following this date were identified as LATE and were not considered further. In excess of 400 Candidate Sites were submitted to the Council for consideration for uses including residential, employment, mineral extraction, tourism and transportation.
- 3.2.3 LDP Wales⁵ requires a local planning authority to ensure that its LDP is “sound” by satisfying 10 tests of soundness. Coherence and effectiveness test C1 refers to the need for a robust and credible evidence base upon which the strategy, policies and allocations are based, having considered alternatives, and soundness test C2 - that the plan has regard to national policy.
- 3.2.4 The site assessment consists of 3 stages which have been designed to enable the Council to filter sites against a number of planning, environmental, physical and deliverability criteria:
- i. Stage 1 Spatial Strategy ‘Fit’.
 - ii. Stage 2 Environmental and Physical Constraints
 - iii. Stage 3 Sustainability Appraisals (SA)
- 3.2.5 In relation to the assessment of flood risk, Stage 2 of the candidate site assessment process utilised the Welsh Government Development Advice Maps (2013) and adopted a precautionary approach by identifying sites within the LDP Strategy area that are affected by flooding / flood risk. The Welsh Government issued revised DAM in January 2015 and these contain changes which have minor implications for some of the identified allocations.
- 3.2.6 From this initial assessment the Council identified 50 sites that were affected by flood risk, and formally sought advice from the Environment Agency (now known, and referred to hereafter, as Natural Resources Wales (NRW)) in January 2010. The purpose of this consultation was to verify the presence and degree of flooding present at each site, and to allow NRW the opportunity to provide the Council with initial views on acceptability or otherwise of development on each site⁶ in terms of potential flood mitigation.
- 3.2.7 As part of the site selection process, further consultation with NRW was undertaken during October 2011 and as recently as June 2013 on a number of amended or additional sites, to ensure that the consideration of flood risk was given significant

⁵ Paragraph 4.32

⁶ Information was also provided by NRW on Historic landfill, groundwater vulnerability, foul water disposal and biodiversity which provided further detail on the suitability of development.

weight in the allocation of appropriate sites, and to ensure the risks and consequences of flooding are appropriately assessed and inform the allocations within the Plan.

3.2.8 In response to the consultations above, NRW has provided advice on the sites affected by flood risk under the following 4 categories according to the degree of known flooding and potential flood risk and options for mitigation:

- a) Sites where the ability to manage the levels of flood risk identified is questionable
- b) Sites where it would need to be demonstrated that mitigation/compensation are acceptable (feasible and practicable) to overcome risks and consequences assessed.
- c) Candidate sites that lie partially within Zone C of the Development Advice Maps (DAMs) and/or our flood zone maps also show the site at risk of flooding.
- d) Candidate sites that do not appear to be at risk from fluvial (Main River) or tidal flooding.

3.2.9 The responses received from NRW in respect of those sites which are carried through into the plan as allocations are summarised at Appendix 1, alongside the Council's surface water analysis (see below), with a brief analysis of each site also provided.

3.2.8 Having regard to the results of the consultation exercise and analysis at Appendix 1, the Council has ensured that it consulted fully with NRW during the process of allocating sites for development in the LDP, and the advice provided by NRW has formed a fundamental part of the site selection process. In this respect, a precautionary approach to development allocations has been adopted, with the Council having largely excluded all candidate or other sites affected by flood risk, apart from those which have previously been granted planning permission and which NRW has indicated that a Flood Consequence Assessment (FCA) has been undertaken to its satisfaction (Appendix 2). A small number of sites which incorporate land zoned as C2 by the DAMs, have been included only where the Council is satisfied that built development would be sited outside of such zones, and/or the impacts of flooding would be able to be acceptably managed.

3.3 Consideration of Surface Water Flooding

3.3.1 Surface water drainage from new development can, if not properly controlled, significantly increase the frequency and size of floods in drainage systems that receive the surface water runoff. This also includes the receiving watercourses within the downstream catchment. Surface water flooding occurs when land becomes saturated, thereby restricting the natural capacity of the land to absorb rainfall leading to overland flow, or when rain falls upon paved surfaces with low absorption causing surface water run-off. In the Vale, these mostly occur after heavy downpours or thunderstorms and are not normally on the scale of those associated with flooding from large rivers. However, in more extreme cases this can result in the flooding of properties, and infrastructure such as roads and footpaths.

3.3.2 For all allocated sites within the LDP the Council's Engineers have assessed the surface water management requirements. In undertaking this assessment the Council has utilised Natural Resources Wales' 2nd generation Areas Susceptible to Surface Water Flooding Maps 2010 (see Appendix 3) together with local authority records and

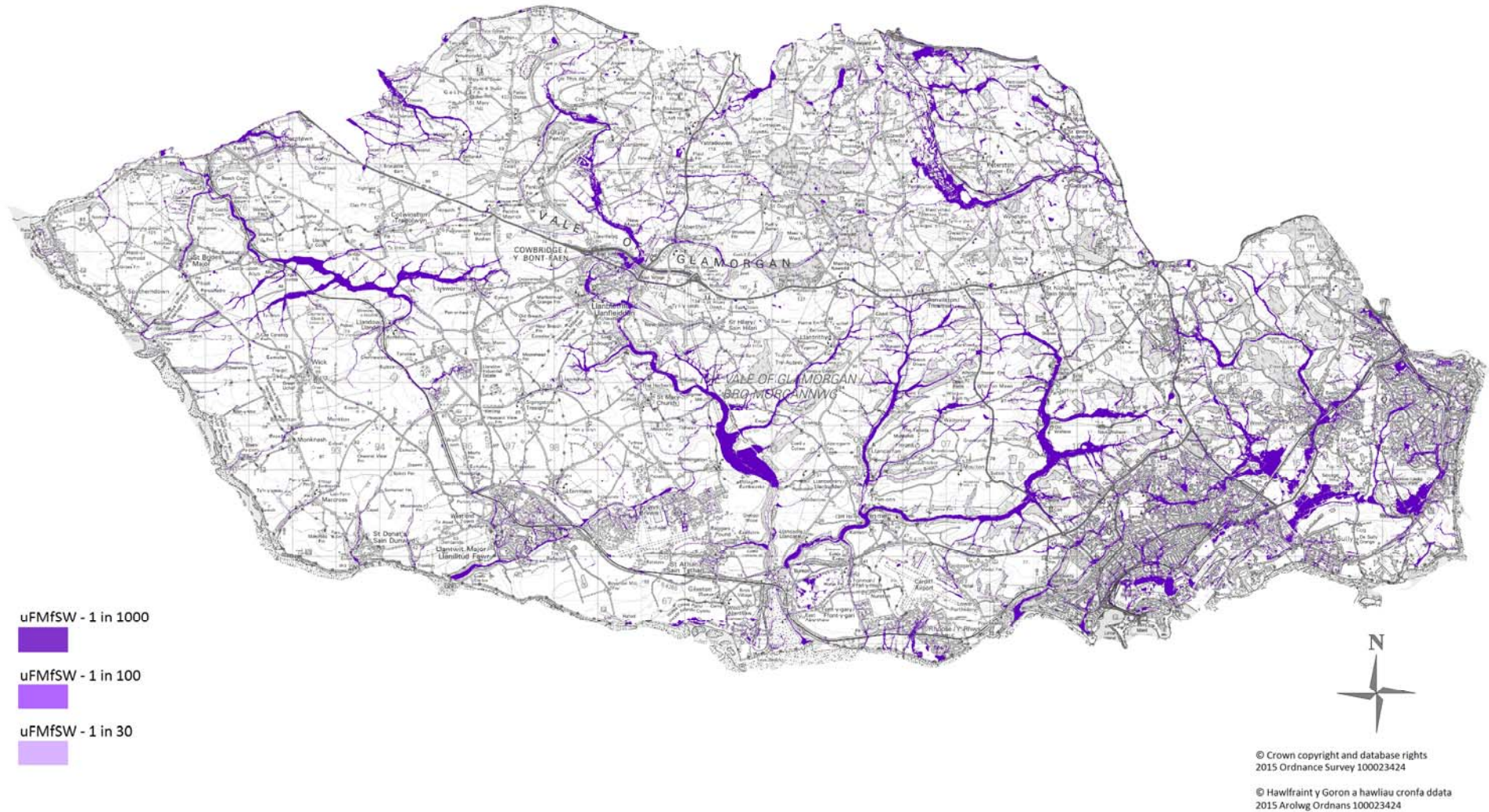
knowledge of historic flooding events. In addition, such work goes hand-in-hand with the Council's 'Local Flooding Risk Management Strategy' (2013).

- 3.3.3 The table at Appendix 1 provides a summary of the surface water requirements associated with the Deposit Plan allocations, which can be read alongside the NRW comments as an overall assessment of the implications of flooding.

3.4 Dŵr Cymru Welsh Water (DCWW) Consultations

- 3.4.1 Consultation on water supply and infrastructure was collected for each site allocation within the LDP through consultation with DCWW. DCWW's Capital Investment Programme is undertaken through a rolling Asset Management Programme (AMP) which seeks to fund large scale utility (water/sewerage/wastewater treatment works) infrastructure works. Currently DCWW are implementing AMP 6 which runs from 1st April 2015 to 31st March 2020.
- 3.4.2 DCWW have advised that while it is unlikely that all of the issues identified by DCWW will receive funding through AMP6 as VOGCs LDP is not yet adopted, this does not mean that development on sites in these areas will be prevented from progressing. Developers can either fund improvements themselves via the planning obligations process or enter into a requisition process to provide the infrastructure to bring forward development in advance of any regulatory investment. More detailed comments in respect of the allocated sites is available within the STATEMENT OF COMMON GROUND between Dwr Cymru Welsh Water (DCWW) and Vale of Glamorgan Council.
- 3.4.3 In respect of water resources more generally, the findings of the Habitats Regulations Assessment (HRA) report on the Deposit LDP have recommended that the Council take a practical approach to understanding future water requirements in the context of planning development. Accordingly it is recommended that the Council undertake a Water Cycle Study during the first 4 years of the LDP after its adoption, consistent with advice from NRW on other LDPs within the region.

Map 2: Surface Water Flood Map (Areas Susceptible to Surface Water Flooding in the Vale of Glamorgan)



4. Consideration of Flood Risk on Other Sites

- 4.1 TAN 15 indicates that the susceptibility of land to flooding is a material consideration in the determination of planning applications. Therefore, whilst the assessment of flood risk has been confined to those sites submitted as candidate sites or otherwise allocated in the Plan, it is realistic for the Council to take the view that other sites with extant planning permissions affected by flooding would have only been granted planning permission where the local planning authority and NRW were satisfied that the assessment of flood consequences was acceptable.
- 4.2 Where permission has lapsed and renewal of planning consent is sought the Council will require a FCA to be undertaken in accordance with TAN 15 to ascertain whether the consequences of flooding are understood and can be mitigated. Accordingly, the Council considers it appropriate that any current site affected by flooding and with extant planning consent be reviewed through the development management and planning application process rather than through the Local Development Plan.

5. Conclusions

- 5.1 This paper highlights how the Council has considered the requirements of TAN15 in the selection of sites for inclusion in the Deposit LDP. It also explains how flooding information has been taken into account through the Candidate Site assessment process and how consultations have been undertaken with NRW, DCWW and the Council's Engineers. In the Council's view, this work has enabled the Council to successfully allocate sites in the Deposit LDP in areas that are either not affected by flood risk or are in the low flood risk areas of the Vale of Glamorgan, and/or where the impacts of flooding can be acceptably managed.
- 5.2 Although a small number of sites within areas of potential flood risk are being progressed in the Deposit LDP, these are restricted to sites that have previously been granted planning permission and NRW has indicated that a FCA has been undertaken to its satisfaction; or where sites are only partially within a C1 / C2 flood zone and relate to areas that are characterised by established uses or where development would not impact on such areas. In addition, such allocations have only been made where they are in accordance with the LDP Strategy in so far as they are necessary to sustain existing settlements.
- 5.3 In this respect, Appendices 2 and 3 provide detailed flooding / surface water constraints (where they exist) in respect of the allocated development sites (including summaries of the FCA of the major sites allocated within C2 flood zones). In accordance with TAN 15, flooding as a constraint for these individual sites has been annotated on the LDP Proposals Map, where appropriate. For sites which are partially located within flood zones, the potential flood constraints have been acknowledged within the LDP, in accordance with the comments received from NRW, including the requirement to undertake a detailed FCA as part of any planning application.
- 5.4 In summary, two LDP allocations lie within a DAM C2 flood zone where a FCA has been undertaken. These are Barry Waterfront, Phase II [mixed uses] and the Land to the South of Junction 34, M4, Hensol [employment use]. Five further sites are allocated in areas which partially lie within a C2 flood zone. Of these, Land to the east of Eglwys Brewis and Land between new Northern Access Road and Eglwys Brewis are allocated for residential uses and land at Hayes Road in Sully is allocated for a Gypsy and Travellers site. In addition, land at Hayes Road; Sully and Atlantic Trading Estate are

allocated for employment uses which are generally considered as being 'less vulnerable' uses under TAN 15. A detailed FCA was prepared for the previous DTC St Athan SFA and details are provided in Appendix 1. The allocated MG2 site at Llandough Landings lies within a DAM C1 flood zone and a broad level FCA has been undertaken on this site which demonstrates that the consequence and risks of flooding can be acceptably managed, albeit a detailed FCA would be required at application stage.

- 5.5 In addition to the allocations, the LDP will incorporate a suite of policies which will seek to provide a positive context for the management of the water resource by minimising or avoiding areas of flood risk, and ensuring that development proposals are required to demonstrate that flooding risk and consequences have been appropriately addressed.

Appendix 1: Summary of Flood Consequence Assessments Undertaken for Allocated Candidate Sites**MoD St Athan Flood Consequence Assessment**

A Flood Consequence Assessment (FCA) has been prepared for the site by consultants Entec following consultation with the Environment Agency Wales (now Natural Resources Wales) Wales. The FCA conforms to the requirements of Technical Advice Note 15 (TAN15): Development and Flood Risk. In assessing the site; the FCA used the Welsh Assembly Government's accompanying TAN15 development advice maps, alongside the Environment Agency flood maps as well as more detailed flood modelling. The FCA considers the cumulative potential impacts of the individual elements of the Defence Technical College and Aerospace Business Park on surface water runoff, flood risk and the impact of climate change. The FCA notes that majority of the main site is located in TAN15 Flood Zone A: i.e. within an area with a less than 0.1% probability of flooding from fluvial or tidal sources in a given year. It should be noted that the land allocated for the Aerospace Business Park within the LDP lies within this area and does not cover the full extent of the application sites for the Defence Technical College which were subject to this FCA. Therefore, flood constraints have not been annotated on the LDP proposals map for the Aerospace Business Park. The extent of flood risk areas in relation to the Defence Technical College application site can be viewed at Appendix 5. The full Assessment can be found via the Council's online planning register for application refs [2009/00500/OUT](#) (DTC) and [2009/00501/OUT](#) (ABP) at: <http://www.valeofglamorgan.gov.uk>

Barry Waterfront Flood Consequence Assessment

The strategic level flood study provides a high level document that considers the topography of the site and flood pathways during an extreme flooding event. The study concludes that site levels should be raised to protect the site from extreme flooding during a 100 year design life, taking into account predicted sea level rises upon both TAN 15 guidance and the more onerous DEFRA guidance. Typically, the study concludes that development levels (including access roads) will need to be raised above 8.868m AOD and that mitigation measures should be provided to protect against a potential surge event. The full Flood Consequence Assessment can be found via the Council's online planning register for application ref [2009/00946/OUT](#) at: <http://www.valeofglamorgan.gov.uk>

Land to the South of Junction 34 M4, Hensol Flood Consequence Assessment

A Flood Consequence Assessment (FCA) has been undertaken by Environmental Resources Management (ERM) and Wallingford Hydro Solutions (WHS) for the previous owners of the site in June 2011. The FCA acknowledges the type of development proposed for this site can be suitable and permissible within Flood Zones A, B and C, due to its classification as '*Less Vulnerable*' under TAN15. The FCA demonstrates that sufficient land area exists to enable large-scale redevelopment of the site whilst ensuring that flood risk from all sources can be mitigated. It notes that a minor area of the site around the Nant Coslech close to the southern Site boundary has been highlighted as having the potential to be affected by reservoir flooding in the event of a breach. This area is not required for development under the scenario applied, and it is advised that no development should be progressed in the future at this location. The full Assessment can be found at: <http://www.valeofglamorgan.gov.uk/ldp>.

Llandough Landings

The developer has commissioned Ove Arup & Partners Ltd to prepare a Flood Note on the Llandough Landings (Anchor Way, Penarth) site which assesses the potential consequences of flooding on the site. The report concludes the following:

The proceeding sections have highlighted the issues relating to flooding on the Anchor Way site using available information. The study has identified the following:

- *The majority of the site and all of the developable area is outside of the flood plain.*
- *The majority of the line of the proposed access road in the south is also outside of the flood plain. However, a small length of the access road in the south is between 8.9m and 10m AOD, this is above the fluvial extreme flood level, but below the undefended extreme tidal level. The Cardiff Bay Barrage protects this area from tidal inundation, however there is a very small risk that failure of the flood defence could occur, flooding parts of the access road by up to 0.6m for a 0.5% event. Flooding of the access road would only occur during a very short (3-4hr) period, when tides are high. Emergency vehicles could gain access to the site through a depth of up to 0.6m during such an event.*
- *SUDS techniques should be considered in the design of this facility, the measures will need to be considered and agreed with the Environment Agency.*

The full report is available to view using the following link: <http://www.valeofglamorgan.gov.uk/ldp/>

NRW has advised that a Broad Level Assessment (BLA) of the site will be required for the site to demonstrate that the risks and consequences of flooding can be managed down to an acceptable level. The Flood Note prepared by Ove Arup and Partners Ltd will form the basis of this further work.

Appendix 2 - Proposed Site and Analysis of Flooding Issues

The following tables provide the comments of Natural Resources Wales and the Council's drainage engineers in respect of the allocated sites within the Local Development Plan, and a brief analysis of the flooding risks or consequences arising from the allocation. Detailed maps of the allocated sites illustrating the flood zones and surface water constraints are provided at Appendix 3.

Natural Resources Wales – General Consultation Response, June 2013

(See codes used to reference responses relevant to individual sites)

B	<p>Delivery and Implementation</p> <p>In terms of tests of soundness (CE2: Coherence and Effectiveness) our advice below directs you to where assessment work may need to be undertaken in order to establish suitability of the site and its delivery, which will also support a robust and credible evidence base.</p> <p>We appreciate the consideration of phasing requirements in your consultation document. As part of this, existing infrastructure and the need for additional infrastructure facilities should be taken into account. It would also be useful to know who is responsible for implementation of various actions associated with infrastructure provision. Such requirements and phasing will be also need to be reviewed at the planning application stage.</p> <p>We would also suggest that any future requirements will be reviewed as part of any Local Development Plan review, and Annual Monitoring Requirement.</p>
C	<p>Water Management (Flood risk management, water quality and water resources)</p> <p>The overarching aim of the EU Water Framework Directive (WFD) is to achieve an integrated system of water protection, improvement and sustainable use. All aspects of water, including water quality, quantity and flow (surface and groundwater), water supply and capacity, wastewater treatment and flood risk should be considered. The requirements of the WFD should be considered by you and included on your Plan, including, the duty placed on public bodies to have regard to River Basin Management Plans (RMBPs), that is, the requirement of rivers to reach “good” status by 2015, a requirement of achieving good ecological status and no deterioration of water quality. Their impact on biodiversity interests is also relevant. Natural Resources Wales will be seeking confirmation as to how these aspects been considered in your LDP and in relation to candidate sites.</p>
D	<p>Flood Risk Management Matters</p> <p>We have previously had discussion with representatives from your Authority on the benefits of undertaking a Strategic Flood Consequence (SFCA) to inform your Local Development Plan. Previously, your Council decided not to follow our advice in undertaking a SFCA and took an alternative approach. We refer you to your Background Paper on ‘Plan Preparation and Assessment of Flood Risk.’ Comments made in this Paper sets out the Council’s response to the policy requirements for flooding as contained within Technical Advice Note (TAN) 15 Development and Flood Risk (July 2004) (TAN15). Your Background Paper also intended to explain how the Council has considered flood risk in relation to the assessment of candidate sites promoted through the LDP process (during the previous draft deposit plan).</p> <p>As you are aware, TAN15 adopts a precautionary framework, advises that highly vulnerable development and Emergency Services in Zone C2 should not be permitted; and further advises that a Local Planning Authority will need to fully explain and justify the reasons for allocating a site within Zone C as defined by the</p>

	<p>Welsh Assembly Government's development advice maps (dams) referenced in TAN15. As part of this justification TAN15 advises the Local Planning Authority to undertake a broad level assessment. This assessment should demonstrate that the consequences of flooding have been understood and are capable of being managed in an acceptable way over the lifetime of development. Where such local information has been produced then this should be reflected in the Plan. The assessment should be undertaken and agreed prior to land being allocated for development in your Plan to ensure that such land is suitable for inclusion.</p> <p>We expect the assessment of flood risks and consequences to be part of the Preferred Strategy and subsequent Deposit Plan consultation; to be included as part of the evidence base and/or supporting information, informing policies and proposals. We wish to continue our liaison with you in regard to flood risk management matters. In order to assist you in the production of your deposit plan, we would like to be consulted on your assessment and outcomes as early in the process as possible, preferably before being consulted on the formal deposit plan. The outcomes of which will need to be taken through into your deposit plan. Please could you inform us about progress and timescales of this work.</p>
F	<p>Surface Water Management Matters <i>Surface water flooding and disposal (drainage)</i></p> <p>Surface water drainage from new development can, if not properly controlled, significantly increase the frequency and size of floods in drainage systems that receive the surface water drainage. This also includes the receiving watercourses within the downstream catchment. Please find attached our guidance on surface water for your attention (Guidance on Surface Water Run-off (Wales Only) 8 May 2103).</p> <p>Your LDP should identify constraints and requirements associated with these candidate sites in reference to surface water flooding and disposal. We therefore request confirmation as to how your LDP policies and the accompanying reasoned justification will control the assessment of surface water flooding risks and effects; the investigation of potential for drainage systems and their suitability for the disposal of surface water; adoption requirements and future maintenance commitments. How will you advise developers of potential costs to be borne by them? It may also be useful to explain those exceptional situations where sustainable drainage systems would not be practicable, for example in contaminated areas. The requirement for a drainage assessment will also apply to windfall and/or speculative development proposed in the future. Your Plan will need to demonstrate its flexibility in dealing with such changing circumstances. We suggest that you give consideration as to whether supplementary planning guidance should be produced in relation to this aspect.</p> <p>At the planning application stage, developers will be required to submit, agree and implement a scheme to dispose of surface water to ensure effective management of surface water run-off resulting from the proposed development. Any proposed scheme should ensure that run-off from the proposed development is reduced or will not exceed existing runoff rates. We also recommend that you contact your Local Authority's Drainage Department for further advice in relation to this. In determination of a planning application we may request the Local Planning Authority to impose suitable planning controls (through conditions, Legal Agreement and/or Community Infrastructure Levy) to ensure effective installation prior to the beneficial use of development. Details of adoption and management should also be submitted to ensure that the scheme/systems remain effective for the lifetime of the development.</p> <p><i>Sustainable Drainage Systems</i></p> <p>Built development, such as roads, pavements, and roofing, tends to increase the surface area of impermeable ground, thus reducing percolation and increasing rapid surface run-off. As a result surface water run-off should be controlled as near to its source as possible through a sustainable drainage approach to surface water management (Sustainable Drainage Systems - SUDS). SUDS are an approach to managing surface water run-off, which seeks to mimic natural drainage systems and retain water on or near the site as opposed to traditional drainage approaches, which involve piping water off site as quickly as possible. SUDS</p>

	<p>involve a range of techniques including soakaways, infiltration trenches, permeable pavements, grassed swales, ponds and wetlands.</p> <p>SUDS offer significant advantages over conventional piped drainage systems in reducing flood risk by attenuating the rate and quantity of surface water run-off from a site, promoting groundwater recharge, and improving water quality and amenity. The variety of SUDS techniques available means that virtually any development should be able to include a scheme based around these principles.</p> <p>We also recognise that in many instances this will be determined by local knowledge and where such concerns are suspected local planning authorities should consult the relevant competent authority on a case by case basis. As already explained above, it is also important that consideration is given to the arrangements of adoption and future maintenance of these systems.</p>
H	<p>Consultation with the Sewerage Undertaker / Utilities Provider (Dŵr Cymru / Welsh Water)</p> <p>An objective of Planning Policy Wales (PPW (Edition 5, November 2012)) is to ensure that appropriate sewerage facilities are provided to convey, treat and dispose of waste water in accordance with appropriate legislation and sustainability principles (paragraph 12.1.4). PPW further advises that the capacity of existing infrastructure, and the need for additional facilities, should be taken into account in the preparation of Plans. In general, Local Planning Authorities should seek to maximise the use of existing infrastructure and should consider how the provision of different types of infrastructure can be co-ordinated (paragraph 12.1.7), develop a strategic and long term approach to infrastructure provision.</p> <p>It should also be recognised that the level of growth supported through candidate sites will have implications for future water and sewage capacity; and their delivery in the Plan period. Alignment of infrastructure planning and investment with development planning is essential; and to reduce the risks to both properties and the environment. Future development should be directed to areas where there is planned sewerage infrastructure. We would be concerned for potential adverse environmental impacts where there are no planned improvements. Any foul drainage from the proposed site should connect to nearest public foul sewer, in the first instance. Any proposals for private works would require further detailed consideration.</p> <p>Our advice is that the provision of private foul drainage within a sewered area, even as a temporary measure (i.e. pending connection to the public foul sewer) is contrary to our legacy body (Environment Agency) policy and therefore could be considered as unacceptable. Such proposals would also conflict with the requirements of Planning Policy Wales (November 201) and Welsh Office Circular 10/99.</p> <p>PPW and Welsh Office Circular 10/99 adopts a hierarchical approach is in place, whereby the first presumption must always be to provide a system of foul drainage discharging into a public sewer (this should be done in consultation with the Sewerage Undertaker for that area). A lack of capacity or plans to improve capacity in the sewer is not a valid reason for a sewerage undertaker to refuse connection under Section 106 of the Water Industry Act 1991 and Natural Resources Wales may refuse to Consent to Discharge for private treatment facilities in such circumstances. Development proposing the use of non-mains drainage schemes will only be considered acceptable where connection to the main sewer is not practicable or feasible. At the planning applications stage, a full and detailed assessment is required for non-mains drainage proposals in accordance with Welsh Office Circular 10/99.</p> <p>We recommend that you consult the sewerage undertaker/utilities provider on the adequacy of existing sewerage infrastructure over the Plan period. We would also suggest evidence be provided in order to demonstrate that Soundness Test Coherence and Effectiveness (CE2) has been met, for example, infrastructure providers' investment programmes and strategies, plus specific drainage assessments for site allocations and key areas of change. Dŵr Cymru/Welsh Water</p>

should be fully consulted to assist you in identifying whether or not there is an issue and its extent (the adequacy and suitability of provision), which may in turn affect the evidence base, flexibility and deliverability of your Plan (tests of soundness CE2 and CE4).

If there are insufficiencies how will the Plan seek to tackle this issue? Will proposals need to be delivered in a phased manner over the Plan period? We suggest that implications for your LDP may include:

- To determine suitability and adequacy of infrastructure provision, phasing and capacity requirements, which will impact on the viability and deliverability of your Plan's proposals; how does provision match with the LDP proposals? And without having an adverse environmental impact?
- In testing potential sites for suitability against provision and impact; are proposals viable and deliverable (or need to be phased) in the Plan period? Does suitable provision exist or where improvements are needed can this be delivered through developer contributions/levy?
- The outcomes of review and consultation will subsequently inform objectives, policies and associated reasoning. For example;
 - In preventing deterioration in water status/improve water status (links with Water Framework Directive Requirements) positive migratory/compensatory measures may need to be sought (by ensuring feasible and practicable improvements take place and suitable waste water infrastructure is provided).
 - You may decide to promote the use of SUDS in your LDP because removing rainwater from the foul sewer network will enable capacity to remain in our sewers; and also reduce the risks to both properties and the environment.
- You may decide to ensure that developers are fully aware of their requirements in providing and/or contributing to necessary improvements (new or upgrade); prior to the development becoming operational where the system is inadequate, and as a direct result of proposals.
- You may decide to seek developer contributions through the Community Infrastructure Levy (CIL)) as a possible means of securing such infrastructure provision.

J Matters relating to Water Resources

Your LDP should ensure that proposers and future developers are aware of constraints to development. This should include the extent to which a candidate sites will impact on the natural environment (water resources and ecological interests) and vice versa. The extent to which water resource issues (supply, capacity and phasing issues) affects the viability and deliverability of your Plans proposals should also be considered by you.

Our advice is that candidate sites should only be allocated where evidence demonstrates that sufficient water exists to supply development. We suggest that sites be tested for suitability against water availability and impact; does suitable provision exist or where improvements are needed can this be delivered through developer contributions/ and/or levy? We would also suggest that water efficiency should be linked to energy efficiency in the home. A number of water efficiency measures will also help to reduce energy consumption.

We recommend consultation with Dŵr Cymru/Welsh Water. Dŵr Cymru/Welsh Water (DCWW) has previously advised that the South East Wales Conjunctive Use System (SEWCUS) water resource zone is one of two areas, which covers the Vale of Glamorgan and is an area forecast as having a shortfall in supply from around 2020. There should be ongoing engagement with Dŵr Cymru/Welsh Water regarding future development proposals and any potential issues.

The Council may wish to consider undertaking a Water Cycle Study in collaboration with other local authorities within South East Wales. Our understanding is that a Water Cycle Study (WCS) is being undertaken in collaboration with other local authorities and this is likely to take place over the next three years (approximately). This will assist the Council in taking a practical approach to understanding future water requirements in the context of planning development and

with adjoining authorities. In addition, water cycle studies enable planning for water more sustainably by: bringing together partners and stakeholders to share information, bringing together all water and planning evidence under a single framework; understanding the environmental and physical constraints to a development; and in identifying a water cycle strategy help all parties plan for a more sustainable water environment. We suggest that this could form part of any future evidence base, thus supporting and informing your future LDP.

Please note, there is guidance, which may be useful in explaining the benefits of undertaking a Water Cycle Study, and how such a Study should be carried out. Please refer to our legacy body Environment Agency guidance on Water Cycle Studies:<http://www.environment-agency.gov.uk/research/planning/33368.aspx>.

General Notes on Drainage Engineer's Comments

The Flood and Water Management Act 2010 (FWMA) transferred regulatory powers for ordinary watercourses to the Vale of Glamorgan Council as a Lead Local Flood Authority (LLFA). The council now leads on ordinary watercourse consenting and enforcement. The purpose of ordinary watercourse regulation is to control certain activities that might have adverse impact on flood risk and the environment. Ordinary watercourses include streams, drains and ditches, and passages through which water flows that do not form the network of main rivers. Main rivers are regulated by Natural Resources Wales. If ordinary watercourses are located within, or adjacent to, the proposed development the Developer will be required to consult with the Council as LLFA and apply for consent for works if deemed necessary. Comments are made on the effect of surface water run-off on adjacent watercourses from the sites listed below. The adequacy of the public sewerage system is a matter for the Sewerage Undertaker, Dŵr Cymru Welsh Water to comment upon but a general note is made if it is known that no public sewers exist within the immediate vicinity of the site. The management of existing land drainage ditches or systems within the sites will also have to be assessed by prospective developers. The Developer will be required to identify and maintain flows within any watercourses / land drainage systems that cross the sites and will be required to submit appropriate details showing proposals to maintain the same for the approval of the Council, as Lead Local Flood Authority (LLFA), and / or Natural Resources Wales. A buffer zone will be required for any watercourse or land drainage system that crosses the sites. Where percolation drainage via soakaways is deemed an appropriate method of disposing of surface water consideration should be taken of the subsequent overland flow paths if flows exceed the capacity of the proposed system.

Housing Sites

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(1)	Phase 2 Barry Waterfront. Allocated Use: Mixed Use. Plan 1 (Appendix 3).	NRW Response Codes: C, H, J Please be aware that we reviewed a site specific FCA for the Barry Waterfront sites, ref: Strategic Flood Level Study, 07/7285A, by ARUP, Aug 2009. Please refer to our representation of 9 December 2009, in which we advised that the FCA appeared to be acceptable.	There is an existing Planning Application for this site. There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Surface water run-off could discharge direct into No 2 Dock and it is recommended that any prospective Developer discusses proposals with the operator of the Dock. Part of the site adjacent to Harbour Road has been identified within the National Coastal Erosion Risk Mapping (NCERM) dataset as being at risk from coastal erosion. At present the site benefits from a Shoreline Management Policy of Hold the Line for the next 100 years but the provision of coastal defences is subject to the availability of suitable funding in the future.
		LPA Comments	
		Detailed FCA previously undertaken (see planning permission ref. 2009/00946/OUT) The FCA work undertaken has demonstrated that the risk and consequences of flooding can be acceptably managed on the site, such that the site may be allocated for development in the LDP. Detailed FCA work will, however, be required to be submitted with any further planning applications at the site.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(2)	Land at Higher End, St Athan (part of St Athan SOA). Allocated Use: Residential. Plan 2 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	An ordinary watercourse passes on the boundary of the site. A buffer zone on the watercourse will be required and any works impacting on the watercourse may require consent from the council as LLFA. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed.
		LPA Comments The eastern half of the allocation has outline planning consent (2012/00066/RES refers) for 100 dwellings. The application was supported by a Flood Consequence Assessment Scoping Study (December 2009) prepared by Redrow Homes (South Wales) Limited. Any flooding issues associated with the site are therefore considered to have been addressed during the determination of the outline planning application. Reserved matters application pending (2013/01148/FUL refers). For the remainder of the site there are considered to be no flooding issues which would affect the allocation of the site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development. There are no other identified flooding issues indicated on the 2015 DAM.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(3)	Land at Church Farm, St Athan (part of St Athan SOA). Allocated Use: Residential. Plan 2 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(4)	Former Stadium Site / Land adjacent to Burley Place, St Athan. Allocated Use: Residential. Plan 3 (Appendix 3).	NRW Response Codes: C, H, J, F DAM A: Aquifer Type: MINOR, Vulnerability Class: MINOR_H, Full Class: MINOR_H3, Soil Class: 3. Not within a Source Protection Zone and located on Secondary A aquifer. Previous use as a sports ground so unlikely to be affected by land. Sewerage – refer to DCWW. SUDS, SW management matters.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(5)	Land to the East of Eglwys Brewis. Allocated Use: Residential. Plan 3 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	A designated main river runs along the boundary of the site. Part of the site falls within flood zones 2 & 3 as produced by Natural Resources Wales. It is therefore recommended that Natural Resources Wales are consulted to clarify the present level of flood risk on the site. Any prospective developer will be required to discuss the suitability of the main river to accept proposed surface water run-off with Natural Resources Wales. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		While the northern edge of the site is nominally within the C2 flood zone, there are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(6)	Land adjacent to Froglands Farm, north of Llantwit Major. Allocated Use: Residential. Plan 4 (Appendix 3).	NRW Response Codes: C, H, J A detailed Flood Consequence Assessment is required. Part of the site is located in an area at risk of flooding which is sensitive to increased flows and there are existing flood risk concerns downstream. As a result, sustainable drainage systems will be required to ensure no increased run-off.	A designated main river runs on the boundary of the site, with known flood risk areas situated downstream. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off from the site. If percolation drainage is not viable, any prospective developer should discuss the suitability of the main river to accept proposed surface water run-off with Natural Resources Wales. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. An existing property immediately south-west of the site is known to suffer from overland flooding via the proposed site and the developer should ensure that the risk of flooding from the new development is managed along this boundary.
		LPA Comments	
		While the southern part of the site fronting Eglwys Brewis Road is partially within the C2 flood zone, it is considered that the risks and consequences of flooding can be acceptably managed on the site, having particular regard to the approval in 2009 of development at this site as part of the MOD Defence Technical College proposals following detailed FCA work. In addition, the identified site density has been reduced in acknowledgement of the flooding issues identified. Accordingly there are considered to be no flooding issues which would affect the allocation of this site in the LDP. A future planning application for the site will need to be accompanied by a detailed FCA together with a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(7)	<p>Land between new Northern Access Road and Eglwys Brewis Road.</p> <p>Allocated Use: Residential.</p> <p>Plan 4 (Appendix 3).</p>	<p>NRW Response Codes: C, D, F, H, J</p> <p>Part of the site is within zone C2 of the DAM and is also within zones 2 and 3 of NRW flood maps. No development should take place within 7m of main rivers and/or flood alleviation assets. We would advise against additional development unless it can be demonstrated by detailed hydraulic modelling that there would be no effect on the existing flood regime and that development would not limit further flood alleviation measures. A detailed Flood Consequence Assessment is required. Part of the site is located in an area at risk of flooding which is sensitive to increased flows and there are existing flood risk concerns downstream. As a result, sustainable drainage systems will be required to ensure no increased run-off.</p>	<p>Designated main rivers run along the south-east boundary and across the middle of the site. The site is upstream of a known flood risk area (Boverton) and is a potential site for the attenuation of river flows within the catchment. It is therefore recommended that Natural Resources Wales are consulted to clarify whether any future works are planned in this area. Part of the site falls within flood zones 2 & 3 as produced by Natural Resources Wales. It is therefore recommended that Natural Resources Wales are consulted to clarify the present level of flood risk on the site. Any prospective developer will be required to discuss the suitability of the main river to accept proposed surface water run-off with Natural Resources Wales. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.</p>
		<p>LPA Comments</p> <p>While the southern part of the site fronting Eglwys Brewis Road is partially within the C2 flood zone, it is considered that the risks and consequences of flooding can be acceptably managed on the site, having particular regard to the approval in 2009 of development at this site as part of the MOD Defence Technical College proposals following detailed FCA work. In addition, the identified site density has been reduced in acknowledgement of the flooding issues identified. Accordingly there are considered to be no flooding issues which would affect the allocation of this site in the LDP. A future planning application for the site will need to be accompanied by a detailed FCA together with a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.</p>	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(8)	Barry Island Pleasure Park, Barry Island. Allocated Use: Residential. Plan 1 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is an existing Planning Application for this site. There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. A public combined water sewer runs in the vicinity of the site and the developer should discuss its suitability to accept proposed surface water run-off with Dŵr Cymru Welsh Water.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(9)	White Farm, Barry. Allocated Use: Residential. Plan 5 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is an existing Planning Application for this site. There is an ordinary watercourse in the vicinity of this site and any prospective developer should investigate the suitability of this watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed.
		LPA Comments	
		Planning permission has been granted for the development of this site (see 2010/00123/RES refers). Flooding and Surface Water issues were considered as part of the planning application determination process.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(10)	Land to east of Pencoedtre Lane, North East Barry. Allocated Use: Residential. Plan 6 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is an existing Planning Application for this site and the site is currently under construction. It is understood that drainage details have been agreed. There are foul and surface water drainage systems on the existing development to the south. The existing surface water system has limited capacity but surface water run-off from proposed development is being attenuated to an agreed rate of discharge.
		LPA Comments	
		Planning permission has been granted for the development of this site (see 2010/01225/RES refers). Flooding and surface water issues were considered as part of the planning application determination process.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(11)	Land to west of Pencoedtre Lane North East Barry. Allocated Use: Residential. Plan 6 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	The proposed site is situated in a catchment with known flooding issues relating to surface water flows into both culverted and unculverted ordinary watercourses. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. If percolation drainage is not viable, surface water run-off from the proposed development may be possible via adjacent watercourses and this should be investigated by the prospective developer. It is likely that flows will be limited to a discharge rate to be agreed with the Council acting as LLFA. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(12)	Ysgol Maes Dyfan, Barry. Allocated Use: Residential. Plan 5 (Appendix 3).	NRW Response Codes: C, F, H, I, J DAM A Aquifer Type: MINOR, Vulnerability Class: MINOR_H, Full Class: MINOR_HU, Soil Class: U. (Comments given on adjacent site SE/2012/11548/8/01 2012/00614/RG3 for lagoon and channel works). Sewerage – refer to DCWW. SW management – SUDS; secondary A aquifer no Source Protection Zone. Previous land use as school may have heating oil system that will require decommissioning and verification of tank removal. SW management, FRMS.	The proposed site is situated in a catchment with known flooding issues relating to surface water flows into both culverted and uncultivated ordinary watercourses. The Developer will have to locate and identify any existing culverted watercourses on the site. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. If percolation drainage is not viable, surface water run-off from the proposed development may be able to be accommodated within the existing surface water drainage system and this should be investigated by the prospective developer. It is likely that flows will be limited to a discharge rate to be agreed with the Council acting as LLFA. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		Site subject to current planning applications (2015/00075/FUL (Phase I - 47 dwellings) & 2015/00076/FUL (Phase II - 34 dwellings) refer). Any specific surface water flooding issues as detailed within the Deposit LDP will therefore be considered as part of the planning application determination process.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(13)	Barry Magistrates Court, Barry. Allocated Use: Residential. Plan 7 (Appendix 3).	NRW Response Codes: C, F, H, J We recommend that you contact your Drainage Department for further advice in relation to this candidate site and your Flood Risk Management Strategy. DAM A; SW issues adjacent to site. Aquifer Type: MINOR, Vulnerability Class: MINOR_H, Full Class: MINOR_HU, Soil Class: U. Sewerage – refer to DCWW. SUDS; secondary A aquifer no Source Protection Zone. Previous land use courts so unlikely to be affected by land contamination. SW management, FRMS.	There is an existing Planning Application for this site, including conditions related to the disposal of surface water, foul and land drainage. No watercourse is available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. A public combined water sewer runs in the vicinity of the site and the developer should discuss its suitability to accept proposed surface water run-off with Dŵr Cymru Welsh Water. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		Planning permission has been granted for the development of this site (2012/01114/FUL refers). Flooding and surface water requirements were considered as part of the planning application process.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(14)	Court Road Depot, Barry. Allocated Use: Residential. Plan 5 (Appendix 3).	NRW Response Codes: C, F, H, I, J Site is located in a Secondary A aquifer (Please note this is not a Source Protection Zone). The previous use of the site appears to be a Council depot (although the use of the site as a depot is not known to us, the Local Authority should be able to confirm such details. Our view is that there is a potential for land contamination and therefore a Preliminary Risk Assessment (PRA) would be required to support any planning application for this site. Consequently further investigation and remediation may be found necessary. Future developer should be made aware of such constraints. We recommend that you contact your Drainage Department for further advice in relation to this candidate site and your Flood Risk Management Strategy. DAM A; Regis – Waste License GLAS045, A13 type “Court Road CA site” NGR ST1229068702; Aquifer Type: MINOR, Vulnerability Class: MINOR_H, Full Class: MINOR_HU, Soil Class: U.	No watercourse is available for the discharge of surface water within the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. Environmental Health should be consulted on the potential impact contaminated land would have on the provision of surface water drainage. A public surface water sewer / culverted ordinary watercourse runs to the south of the site, discharging into the nearby docks. Surface water run-off from proposed development may be able to be accommodated within the existing surface water drainage system and this should be investigated by the prospective developer. It is likely that flows will be limited to those that currently exist but this matter should be discussed with the Council acting as LLFA. Disposal of surface water northwards from the site into the Coldbrook catchment would be unacceptable due to existing flooding issues. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(15)	Holm View, Barry. Allocated Use: Residential. Plan 5 (Appendix 3).	NRW Response Codes: C, F, H, I, J We recommend that you contact your Drainage Department for further advice in relation to this candidate site and your Flood Risk Management Strategy. DAM A; Aquifer Type: minor_H_HU; Consider surface water management strategy and SUDS. Culverting. Secondary A aquifer no Source Protection Zone. Previous land use leisure centre, may have heating oil tanks on site which will need decommissioning and verification.	The proposed site is situated in a catchment with known flooding issues relating to surface water flows into both culverted and uncultivated ordinary watercourses. The Developer will have to locate and identify any existing culverted watercourses on the site. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. If percolation drainage is not viable, surface water run-off from the proposed development may be able to be accommodated within the existing surface water drainage system and this should be investigated by the prospective developer. It is likely that flows will be limited to a discharge rate to be agreed with the Council acting as LLFA. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(16)	Hayes Wood, The Bendricks, Barry. Allocated Use: Residential. Plan 8 (Appendix 3).	NRW Response Codes: C, F, H, I, J We recommend that you contact your Drainage Department for further advice in relation to this candidate site and your Flood Risk Management Strategy. DAM A; major Aquifer_HI; Sully Hospital Transfer Station. Consider surface water/drainage strategy and SUDS. SW management FRMS. Refer to DCWW. Principal aquifer no Source Protection Zone. Unknown previous use but surrounded by industry.	No watercourse is available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. If percolation drainage is not viable, surface water run-off from proposed development may be able to be accommodated via existing surface water drainage systems and this should be investigated by the prospective developer. It is likely that flows will be limited to those that currently exist but this matter should be discussed with the Council acting as LLFA. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(17)	Cowbridge Comprehensive Lower School. Allocated Use: Residential. Plan 9 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	A surface water sewer serves the existing development on this site and discharges into the nearby designated main river, the River Thaw. Surface water run-off from proposed development may be able to be accommodated within the existing surface water drainage system and this should be investigated by the prospective developer. It is likely that flows will be limited to those that currently exist but this matter should be discussed with Natural Resources Wales due to the discharge to the main river.
		LPA Comments	
		Planning permission has been granted for the development of this site and construction has been completed (2011/01248/FUL refers).	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(18)	Cowbridge Comprehensive Sixth Form Block, Aberthin Road. Allocated Use: Residential. Plan 9 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. There is likely to be a surface water drainage system serving the existing development. Surface water run-off from proposed development may be able to be accommodated within the existing surface water drainage system and this should be investigated by the prospective developer.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(19)	Land adjoining St Athan Road. Allocated Use: Residential. Plan 9 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	An ordinary watercourse runs in the vicinity of the site. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed. A designated main river runs in the vicinity of the site and any developer will be required to discuss the suitability of these rivers to accept proposed surface water run-off with the Natural Resources Wales.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(20)	Land to the north and west of Darren Close, Cowbridge. Allocated Use: Residential. Plan 9 (Appendix 3).	NRW Response Codes: C, F, H, J DAM A site >1 ha (13.96ha); surface water flooding through parts of site (AStSWF; FMfSW 1 in 30 and 1 in 200 chance of rain). Major Aquifer H3, Minor Aquifer I1: >408m Regis waste licence ENV836 Cowbridge Compost Ltd at SS988751: no authorised or historic landfill. DCWW sewerage catchment, existing public foul main to south of site along Llantwit Major Rd: No known AMP scheme. Consider surface water management/drainage strategy and SUDS. Refer to DCWW is there suitable and available foul water infrastructure. Previous comments still apply particularly with regard to capacity issues at Cowbridge WWTW, no improvements planned. Concern raised with regard to surface water attenuation and regulation to be of greenfield rate or lower. Concern for impact of sw on area known as Westgate. Oppose use of private treatment plants. Not within an SPZ and located on a principal aquifer. Greenfield location so unlikely to be affected by potential land. FRMS to be checked.	There is a culverted ordinary watercourse crossing this site, and a potential for sink holes within the site; the Developer will have to locate, identify and maintain these features. The Flood Map for Surface Water dataset maintained by Natural Resources Wales indicates that surface water will flow overland across the middle of this site. There is an adjacent area of development already at risk of flooding from a combination of surface water flows and the culverted ordinary watercourse issuing from this site. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed by the Council acting as LLFA. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		The site lies outside of any DAM flood zone. Planning application 2014/01505/OUT for 390 dwellings, link road, community facilities and associated infrastructure currently under consideration by the Council. Application supported by Environmental Statement – Water Resources and Flood Risk (December 2014) prepared by Brookbanks Consulting Ltd in support of the application. Any ground or surface water flooding issues will therefore be considered as a part of the planning application determination process following consultation with NRW.	

Vale of Glamorgan Local Development Plan 2011 - 2026

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(21)	Plasnewydd Farm, Llantwit Major. Allocated Use: Residential. Plan 10 (Appendix 3).	NRW Response Codes: C, H, J DAM Zone A within site boundary; Adjacent road B4265 shown to be in DAM Zone C2 which is existing infrastructure and may not be suitable as an evacuation route (depths of flooding unknown at this stage); same picture for flood zone maps; Main river south and southwest of site; Ogney Brook (NAFRA – low); AStSWF along northern road B4265 and along southern boundary; for FMfSW 1 in 30 and 1 in 200 chance of rain area along northern road B4265. Minor Aquifer H3; pollution incidents along Ogney brook category 3 minor (fly tipping of C&D and biodegradable material) and category 4 no impact; half of the site area appears to be in the Llantwit Major DCWW Sewerage Catchment Area with points for entry? Consult DCWW; Site >1 ha refer to sw drainage strategy.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. It is recommended that you seek the comments of Network Rail due to the close proximity of the site to their railway and regarding any land drainage pipes that pass under the railway from this site. Flows in these pipes will have to be maintained.
		LPA Comments	
		Planning application 2013/00378/FUL for 149 dwellings was approved by the Vale of Glamorgan Council on the 23rd January 2015. The application was supported by a Flood Consequences Assessment which was fully assessed as a part of the planning application determination process.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(22)	Land adjacent to Llantwit Major Bypass. Allocated Use: Residential. Plan 4 (Appendix 3).	NRW Response Codes: C, H, J DAM zone A; northern road (Eagle Rd) in DAMC2 and FZ; NaFRA shown significant and moderate flooding along Boverton Brook area; historic flooding near street called Boverton Brook consider any impact to third parties/no increase in flooding elsewhere; AStSWF areas along railway line and road B4265; FMfSW 1 in 30 and 1 in 100 areas along railway line; Minor Aquifer H3; hydrometric sampling point and WIMS sampling point in close range; north east of site recorded category 3 and 4 impacts as a result of sewer overflow failures; site outside of Llantwit Major sewerage catchment through manholes in close proximity. Advice on surface water/drainage strategy and impact to third parties as historic flooding shown; also consider foul water sewerage and infrastructure/ Consult DCWW. Site located on secondary aquifer and not within SPZ. Greenfield site so unlikely to be affected by historical activities.	A designated main river runs on the boundary of the site, with known flood risk areas situated downstream. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off from the site. If percolation drainage is not viable, any prospective developer should discuss the suitability of the main river to accept proposed surface water run-off with Natural Resources Wales. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		The site lies outside any DAM flood zone. In addition a planning application is currently under consideration by the Council (2014/00995/FUL refers). Flood Risk and Drainage Strategy Report (July 2014) submitted in support of planning application. Ground water and surface water flooding issues will therefore be considered as a part of the planning application process in consultation with NRW.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(23)	Land at Upper Cosmeston Farm. Allocated Use: Residential. Plan 11 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	A designated main river runs in the vicinity of the site. Any prospective developer will be required to discuss the suitability of the main river to accept proposed surface water run-off with Natural Resources Wales. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(24)	Land adjoining St. Josephs School, Sully Road. Allocated Use: Residential. Plan 12 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	An ordinary watercourse passes runs on the boundary of the site. A buffer zone on the watercourse will be required. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed.
		LPA Comments The site lies outside any DAM flood zone. A planning application for change of use of agricultural land to residential (54 dwellings) is currently under consideration by the Council (2014/00460/FUL refers). The application is supported by a Flood Risk Assessment and Surface Water Drainage Strategy and ground or surface water flooding issues will be assessed as a part of the planning application process and in consultation with NRW if required.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(25)	Headlands School, St. Augustine's Road. Allocated Use: Residential. Plan 13 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. The connection of proposed surface water run-off to the public sewer should be discussed with Dŵr Cymru Welsh Water. Part of the site is adjacent to the coast. Consideration will have to be given to the likely recession of the cliff during the lifetime of the development as there are concerns of developing in locations under threat of erosion where appropriate defences are not viable.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(26)	Land at and adjoining St. Cyres School, Murch Road. Allocated Use: Residential. Plan 12 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(27)	Land off Caerleon Road, Dinas Powys. Allocated Use: Residential. Plan 14 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. There is a record of flooding of properties on the adjacent development to the south due to land drainage and surface water run-off from this land. Mitigation measures to prevent surface water flooding will have to be considered. A designated main river runs on the west side of the railway which is adjacent to the site. Any prospective developer will be required to discuss the suitability of this main river to accept proposed surface water run-off with Natural Resources Wales. It is recommended that you seek the comments of Network Rail due to the close proximity of the site to their railway and regarding any land drainage pipes that pass under the railway from this site. Flows in these pipes will have to be maintained.
		LPA Comments	
		The site is not within an identified DAM flood zone. Planning application currently being considered by the Vale of Glamorgan Council (2014/00282/FUL refers). Planning application supported by Drainage Strategy Report (July 2012) ground and surface water flooding issues will therefore be considered as a part of the planning application process and in consultation with NRW.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(28)	Land at and adjoining Ardwyn, Pen-y-Turnpike Road. Allocated Use: Residential. Plan 14 (Appendix 3).	NRW Response Codes: C, F, H, J DAM A; outside of FZ maps; NaFRA shows settlement of Eastbrook at significant and moderate risk; no risk from AStSWF or FMfSWF; SPZ1 inner source Protection Zone approx. >150m from cSite 20; no GVZ on site nearest aquifer >250m from Major H1 and Minor H1. Part of csite in Cog Moors Sewerage Catchment; main PFS/Combined appears to be on adjacent road (Pen-y-Turnpike Road). No known AMP. Consider surface water management/drainage strategy. SUDS and ensure no impact to third parties. Consult DCWW with regard to foul water disposal. Secondary B aquifer, no Source Protection Zone but close by. Appears to be a greenfield site so unlikely to be affected by land contamination.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		Planning application (2014/00167/FUL refers) submitted and approved (approval date 11/11/2014) by the Council, Drainage Strategy Note prepared by Spring Designs (03/06/2014) submitted in support and considered as a part of the planning application process.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(29)	Land at Cross Common Road. Allocated Use: Residential. Plan 15 (Appendix 3).	NRW Response Codes: C, F, H, J Csite 26 in DAM A; apart from tip in C1 and FZ; historic flooding across from road west and northwards of site (R.Cadoxton); NaFRA shows Csite not to be affected but areas within Dinas Powys Settlement at moderate and significant risk; AstSWF through centre and southern part of site; FMfSWF 1 in 30 and 1 in 200 chance of rain in southwest part of Csite	A designated main river runs close to the western boundary of the site. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off from the site. If percolation drainage is not viable, any prospective developer should discuss the suitability of the main river to accept proposed surface water run-off with Natural Resources Wales. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. A planning application is currently under consideration by the Council (2015/00392/OUT refers). Application supported by a Drainage Strategy and Flood Risk Report prepared by Spring Design, Ground water and surface water flooding issues will therefore be considered as a part of the planning application process in consultation with NRW.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(30)	Land south of Llandough Hill/Penarth Road. Allocated Use: Residential. Plan 16 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	An ordinary watercourse passes through the site. A buffer zone on the watercourse will be required. There is a record of flooding of properties from the ordinary watercourse on the adjacent development to the north of the site. Mitigation measures to prevent surface water flooding will have to be considered. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(31)	Land north of Leckwith Road. Allocated Use: Residential. Plan 16 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		The site is not within any identified DAM flood zone. A planning application is currently under consideration by the Council (application 2014/01401/FUL refers). The planning application is supported by a Drainage Strategy Report (November 2014) prepared by Spring Design Consultants and issues of ground water and surface water flooding will therefore be considered as a part of the planning application process and in consultation with NRW.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(32)	Llandough Landings. Allocated Use: Residential. Plan 16 (Appendix 3).	NRW Response Codes: C, D, F H, J (and BLA) Candidate site 31, Llandough Landings, lies within Zone C1, as defined by the Development Advice Map (DAM) referred to under Technical Advice Note 15: Development and Flood Risk (TAN15) (July 2004). Our Flood Map information, which is updated on a quarterly basis, confirms approximately 50% of the site to be situated within both the 1% (1 in 100 year) and 0.1% (1 in 1000 year) annual probability fluvial flood outlines of the River Ely, which is a Main River Watercourse at this location. A broad level assessment (BLA) should be undertaken to demonstrate that the risks and consequences of flooding can be managed down to an acceptable level. DAM C1 and B; FZ2 (Q1000); FZ3 (Q100); NaFRA low, moderate and high risk; no historic flood map; Part of site in AStSWF; Regis Waste Licence at Ferry Rd; Historic Landfill Sites east side of River Ely; majority of site outside of DCWW sewerage catchment; surrounding improvements in AMP2, 3 and 4; potential for contamination;	A designated main river runs along the eastern boundary of the site. The site falls within flood zones 2 & 3 as produced by Natural Resources Wales. It is therefore recommended that Natural Resources Wales are consulted to clarify the present level of flood risk on the site. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off from the site. If percolation drainage is not viable, any prospective developer should discuss the suitability of the main river to accept proposed surface water run-off with Natural Resources Wales. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		The developer has produced a Flood Note for the proposed development (see Appendix 1) which has demonstrated that the risk and consequences of flooding can be acceptably managed on the site, such that the site may be allocated for development in the LDP. The flood note has been reviewed by Natural Resources Wales who have advised that a Broad Level Assessment of the site should be undertaken. Further detailed BLA work will therefore be required to be undertaken and submitted with any planning application for the site.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(33)	Land north of the Railway Line, Rhoose. Allocated Use: Residential. Plan 17 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is an existing Planning Application for this site. There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. There is a record of flooding of properties on the adjacent development to the south side of the railway due to overland flow of surface water from this land. There is also a record of flooding of part of this land near the railway. Mitigation measures to prevent surface water flooding will therefore have to be considered. The use of soakaways for the disposal of surface water run-off on this site is therefore not recommended. It is therefore recommended that any prospective developer investigates the disposal of surface water direct to the sea. The management of existing land drainage ditches or systems which are known to cross this site will have to be assessed by prospective developers. The Developer will be required to identify and maintain flows within land drainage systems that cross the sites and will be required to submit appropriate details showing proposals to maintain the same for the approval of the Council, as Land Drainage Authority, and / or Natural Resources Wales. A buffer zone will be required for these land drainage systems. It is recommended that you seek the comments of Network Rail due to the close proximity of the site to their railway and regarding any land drainage pipes that pass under the railway from this site. Flows in these pipes will have to be maintained.
		LPA Comments	
		The Council has resolved to grant planning permission for part of this site subject to a s106 agreement (ref. 2010/00686/EAQ). As part of the application, the developer submitted an FCA and drainage strategy which takes into consideration flooding and surface water issues. Any application for the remainder of the site will similarly need to be accompanied by supporting assessments to demonstrate that there would be no adverse consequences. As such, there are considered to be no flooding issues which would impact on the allocation of this site in the LDP. A reserved matters application (2014/00639/RES refers) is currently under consideration by the Council which includes details of all ground, surface and foul water drainage elements.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(34)	Land south of the Railway Line, Rhoose Point. Allocated Use: Mixed use. Plan 17 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is an existing Planning Application for this site. There are foul and surface water drainage systems which serve the existing development. These surface water sewers were designed to cater for surface water run-off from this land; however the rate of discharge of surface water run-off will need to be agreed as there may be limited capacity within the existing sewers and attenuation may be required. The management of existing land drainage ditches or systems which are known to cross this site will have to be assessed by prospective developers. The Developer will be required to identify and maintain flows within land drainage systems that cross the sites and will be required to submit appropriate details showing proposals to maintain the same for the approval of the Council, as Land Drainage Authority, and / or Natural Resources Wales. A buffer zone will be required for these land drainage systems. It is recommended that you seek the comments of Network Rail due to the close proximity of the site to their railway and regarding any land drainage pipes that pass under the railway from this site. Flows in these pipes will have to be maintained.
		LPA Comments	
		The Council has resolved to grant planning permission for part of this site subject to a s106 agreement (ref. 2012/00937/FUL). As part of the application, the developer has submitted a drainage strategy which takes into consideration surface water issues. As such, there are considered to be no flooding issues which would impact on the allocation of this site in the LDP.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(35)	Land to the West of Port Road, Wenvoe. Allocated Use: Residential. Plan 18 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	An ordinary watercourse passes runs in the vicinity of the site. A buffer zone on the watercourse will be required. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed.
		LPA Comments	
		A planning application has been submitted and approved by the Council (Application 2014/00452/RES refers). Any flooding and/or drainage issues considered during the planning approval process in consultation with NRW as required.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(36)	Land adjoining Court Close, Aberthin. Allocated Use: Residential. Plan 19 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. There is an existing issue with surface water runoff in this area causing flooding to adjacent properties. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. A designated main river runs to the south of the site. Any prospective developer will be required to discuss the suitability of this main river to accept proposed surface water run-off with Natural Resources Wales.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(37)	Land to the east of Bonvilston. Allocated Use: Residential. Plan 20 (Appendix 3).	NRW Response Codes: C, F, H, J DAM A; Major Aquifer H1; part of cSite in DCWW Sewerage Catchment Area (Bonvilston East). Environmental - cSite over 1ha in DAM A (7.205ha or 7.7 ha?) therefore request SW management/drainage strategy/assessment; and SUDs. Geoscience - not within an SPZ and located on Principal aquifer. Greenfield location so unlikely to be effected by potential land contamination issues from previous use. Foul drainage should be mains sewer.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(38)	Land to the rear of St. Davids Church in Wales Primary School, Colwinston. Allocated Use: Residential. Plan 21 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse suitable for the discharge of surface water within the immediate vicinity of the site. There is a record of flooding of properties to the west of the site due to overland flow of surface water from this land. Mitigation measures to prevent surface water flooding will therefore have to be considered. The consideration for surface water disposal and management will therefore have to be assessed. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. An assessment will also be required to ensure that drainage from the proposed development does not cause or exacerbate any adverse condition on the development site, adjoining properties, environment and existing infrastructure with regard to flood risk.
		LPA Comments	
		The site is not within an identified DAM flood zone. A planning application for 64 dwellings supported by a Drainage Strategy (February 2014) has been submitted and approved by the Council (Application 2014/00242/FUL refers). Any flooding and/or drainage issues considered during the planning approval process in consultation with NRW as required.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(39)	ITV Wales and Land adjacent to Old Port Road. Allocated Use: Residential. Plan 22 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is an existing Planning Application for this site. There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. It is understood that surface water run-off from the existing development currently discharges into an existing retention pond adjacent to the Copthorne Hotel. The Applicant should consider utilising this arrangement for part of the proposed development.
		LPA Comments	
		Outline planning permission 2012/00841/OUT included a drainage assessment which examined the solutions for surface water drainage. Planning application 2014/01079/RES for 224 dwellings approved 12 th May 2015 all flooding and/or drainage issues considered during the planning approval process in consultation with NRW as required.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(40)	The Garden Emporium, Fferm Goch. Allocated Use: Residential. Plan 23 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		Planning application 2014/00008/RES approved 4/4/2014 all flooding and drainage issues considered as a part of the planning application process.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(41)	Ogmore Residential Centre. Allocated Use: Residential. Plan 24 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received. We have no records to indicate risks of flooding from main river or tidal sources to this site. Any local flood risk should be assessed by you as the Lead Local Flood Authority and wherever possible sustainable drainage systems should be encouraged.	There is an existing Planning Application for this site. There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. There is likely to be a surface water drainage system serving the existing development. Surface water run-off from proposed development may be able to be accommodated within the existing surface water drainage system and this should be assessed by the prospective developer.
		LPA Comments	
		Planning application (2009/00489/OUT) granted at appeal 29/03/2012. Planning application 2013/00862/RES included a Flood Risk assessment submitted in support of the application covering all issues in relation to drainage and flooding considered as a part of the planning approval process.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(42)	Ogmore Caravan Park. Allocated Use: Residential. Plan 24 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received. We have no records to indicate risks of flooding from main river or tidal sources to this site. Any local flood risk should be assessed by you as the Lead Local Flood Authority and wherever possible sustainable drainage systems should be encouraged.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		Planning application 2009/01273/OUT approved 26/09/2011 all ground and surface water flooding issues have or will be considered as a part of the normal planning application process and with due consultation with NRW as required. Planning application 2014/01108/RES refers.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(43)	Land to the East of St. Nicholas. Allocated Use: Residential. Plan 25 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		The site lies outside any identified DAM flood zones and there are considered to be no flooding issues which would affect the allocation of this site in the LDP. Planning applications (2015/00249/FUL and 2015/00662/FUL) are currently being considered by the Council and All ground and surface water issues will therefore be considered as a part of the normal planning application process and in consultation with NRW as required.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(44)	Land off St. Brides Road, Wick. Allocated Use: Residential. Plan 26 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.
		LPA Comments	
		The site lies outside any identified DAM flood zones. Planning application 2014/01424/FUL for 124 dwellings currently under consideration by the Council. Planning application supported by a Flood Consequence Assessment and Drainage Strategy (November 2014) prepared by Mayer Brown for David Wilson Homes. All ground and surface water issues will therefore be considered as a part of the normal planning application process and in consultation with NRW as required.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(45)	Land North off Sandy Lane, Ystradowen. Allocated Use: Residential. Plan 27 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	An ordinary watercourse runs in the vicinity of the site. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed.
		LPA Comments	
		Planning application 2013/00856/OUT for 40 dwellings approved by the Council 13/03/2014. Reserved matters application (2014/01483/RES refers) currently under consideration by the Council. Outline planning application supported by a Flood Consequence Assessment and Drainage Strategy prepared by FMW Consultancy (July 2013). All ground and surface water issues will therefore be considered as a part of the normal planning application process and in consultation with NRW as required	

Vale of Glamorgan Local Development Plan 2011 - 2026

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG2(46)	Land West of Swanbridge Road, Sully (Reserve Site). Allocated Use: Residential. Plan 28 (Appendix 3).	NRW Response Codes: C, H, J No site specific comments received.	<p>There is no watercourse suitable for the discharge of surface water within the immediate vicinity of the site. There was a recent incidence of flooding to properties on the adjacent development to the south side the site due to overland flow of surface water from this land. There are also records of previous flooding of properties on the adjacent development to the south side and west of the site due to overland flow of surface water from this land. Mitigation measures to prevent surface water flooding will therefore have to be considered. The consideration for surface water disposal and management will therefore have to be assessed. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. An assessment will also be required to ensure that drainage from the proposed development does not cause or exacerbate any adverse condition on the development site, adjoining properties, environment and existing infrastructure with regard to flood risk. An alternative to the use of soakaways for the disposal of surface water run-off on this site is therefore recommended. The management of existing land drainage ditches or systems which are known to cross this site will have to be assessed by prospective developers.</p> <p>The Developer will be required to identify and maintain flows within land drainage systems that cross the sites and will be required to submit appropriate details showing proposals to maintain the same for the approval of the Council, as Land Drainage Authority. A buffer zone will be required for these land drainage systems.</p>
		LPA Comments	
		The site lies outside of any identified DAM flood zone. In addition outline planning application 2013/01279/OUT submitted for consideration and includes a hydrology and hydrogeology assessment as a part of the main Environmental Assessment documentation submitted in support of the planning application. All ground and surface water issues will therefore be considered as a part of the normal planning application process and in consultation with NRW as required	

Employment Sites

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(1) & MG9(11)	Land to the South of Junction 34 M4 Hensol (Strategic employment site / Local employment site). Allocated Use: Employment. Plan 35 (Appendix 3).	Site is entirely within zone C2 of DAM and 1% and 0.1% floods events. Flood Consequence Assessment required and the LDP should acknowledge that development / layout of the site may be constrained.	Designated main rivers run in the vicinity of the site and any developer will be required to discuss the suitability of these rivers to accept proposed surface water run-off with the Environment Agency.
		LPA Comments	
		Site subject to outline planning application (2014/00228/EAO refers) for development comprising B1, B2 and B8 uses, hotel/residential training centre and ancillary uses and associated infrastructure. Application support by detailed evidence base including Flood Risk and Drainage Assessment as a part of a detailed Environmental Statement. Potential flooding constraints acknowledged within LDP including the requirement for detailed Flood Consequence Assessment as part of any planning application. All ground and surface water issues will therefore be considered as a part of the normal planning application process and in consultation with NRW as required. In addition a previous FCA has been prepared in support of the site allocation as noted at Appendix 1.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(2)	Land adjacent to Cardiff Airport and Port Road, Rhoose. Allocated Use: Employment. Plan 34 (Appendix 3).	Due to the large size of the development a Surface Water Assessment would be required prior to development. We advise that surface water run-off is controlled as near to its source as possible through a sustainable drainage approach to surface water management (SuDS).	There are ordinary watercourses in the vicinity of the site. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed. There is no public foul sewerage system within the vicinity of the site.
		LPA Comments There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(3)	Aerospace Business Park, St Athan. Allocated Use: Employment. Plan 33 (Appendix 3).	In our response to planning applications 2009/00500/OUT and 2009/00501/OUT (dated 30 July 2009, our ref: SE/2009/110668-69) we advised that we had no objection to the proposed developments as submitted, subject to our advice being taken into account (request for conditions). With regard to flood risk, we advised the model submitted provided a good representation of the local hydraulic climate and the flood outlines produced by the consultants in their FCA report could be considered realistic. We therefore advised that the findings of the FCA and output of the Hec-Ras model submitted in support of the Defence Technical College and Aerospace Business Park appeared to be acceptable. The FCA also stated that the proposed development will be designed to preclude construction within the predicted flood risk areas, up to the 0.1% event, that is, to develop outside of the agreed flood outlines. We requested therefore that any development approved by the local planning authority should be designed outside the agreed flood outlines, and recommended a condition requiring a surface water regulation system.	There are designated main rivers and ordinary watercourses in the vicinity of this site. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed. Due to the close proximity to the designated main rivers, any developer will be required to discuss the suitability of these rivers to accept proposed surface water run-off with the Environment Agency.
		LPA Comments	
		Detailed FCA previously undertaken (see application 2009/00501/OUT) as part of combined ABP and MOD Defence technical College proposals. Any further application will need to be accompanied by an amended FCA and drainage strategy and be determined as a part of the normal planning application process and in consultation with NRW as required.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(4)	Atlantic Trading Estate. Allocated Use: Employment. Plan 32 (Appendix 3).	Site is partially within zone C2 of DAM and 1% and 0.1% floods events. Flood Consequence Assessment required and the LDP should acknowledge that development / layout of the site may be constrained. The site is also located upon a major aquifer and is in close proximity to the River Cadoxton the potential impact of development should be assessed prior to development.	Part of the site is adjacent to the coast. Consideration will have to be given to the likely recession of the cliff during the lifetime of the development as there are concerns of developing in locations under threat of erosion where appropriate defences are not viable. Part of the land is in an area highlighted on the Environment Agency's Flood Maps as being at risk of flooding. It is therefore recommended that you seek the comments of the Environment Agency. The Trading Estate to the south-east of the River Cadoxton is currently in the ownership of the Council and there are foul and surface water drainage systems which serve existing development. The existing surface water system has limited capacity. Surface water run-off from proposed development may be able to be accommodated within the existing surface water drainage system but some attenuation of flows may be required. The River Cadoxton, which is a designated main river, runs through the site and any developer will be required to discuss the suitability of the river to accept proposed surface water run-off with the Environment Agency.
		LPA Comments	
		The revised 2015 DAMs indicate partial C2 coverage on site MG9 (4) 'B' and 'C' and partial zone B coverage on site 'A' as illustrated on plan 32. This however represents a small proportion of the allocated site. Notwithstanding this, the allocation is a local employment site and is part of an established industrial estate with historic and recent developments approved. Potential flooding constraints will be acknowledged within the LDP including the requirement to undertake a detailed Flood Consequence Assessment as part of any planning application.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(5)	Land at Ffordd y Milleniwm, Barry. Allocated Use: Employment. Plan 31 (Appendix 3).	Site [previously known as Barry Docks and Chemical Complex] is partially within zone C2 of DAM and 1% and 0.1% flood events. Flood Consequence Assessment required and the LDP should acknowledge that development / layout of the site may be constrained.	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. Surface water run-off could discharge directly into No 2 Dock and it is recommended that any prospective Developer discusses proposals with the operator of the Dock. There is no public foul sewerage system within the vicinity of the site.
		LPA Comments	
		The proposed site allocation within the LDP has been scaled back from 16.6 to 7.8 hectares, which avoids land in Zone C2 of DAM and the January 2015 DAM shows partial coverage of zone B to the east of the site. Potential flooding constraints will be acknowledged within the LDP including the requirement to undertake a Flood Consequence Assessment as part of any planning application.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(6)	Hayes Lane, Sully. Allocated Use: Employment. Plan 32 (Appendix 3).	No site specific flooding comments received.	Atlantic Trading Estate, which is adjacent to the site, is currently in the ownership of the Council and there are foul and surface water drainage systems which serve existing development. The existing surface water system has limited capacity. Surface water run-off from proposed development may be able to be accommodated within the existing surface water drainage system but some attenuation of flows may be required.
		LPA Comments	
		There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(7)	Hayes Road, Sully. Allocated Use: Employment. Plan 30 (Appendix 3).	Situated on an historic landfill site. Originally a series of underground storage tanks, since removed and the site filled and levelled. If ground works are proposed then a Preliminary Risk Assessment would be required prior to development to assess the potential risk of contamination. Previously advised that site only partially lies within in C2 of dam, 1% and 0.1% flood events.	Part of the site is adjacent to the coast. Consideration will have to be given to the likely recession of the cliff during the lifetime of the development as there are concerns of developing in locations under threat of erosion where appropriate defences are not viable. There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. There is no public foul sewerage system within the vicinity of the site.
		LPA Comments	
		Potential C2 flood zone coverage to the north of the site. Potential flooding constraints acknowledged within the LDP including the requirement to undertake a detailed Flood Consequence Assessment as part of any planning application.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(8)	Hayes Wood, Barry. Allocated Use: Employment. Plan 32 (Appendix 3).	No flooding related comments received.	It is understood that foul and surface water drainage infrastructure has previously been provided for this site with surface water run-off discharging to the River Cadoxton. The suitability of the existing systems will have to be assessed by prospective developers.
		LPA Comments	
		The site is not within an identified DAM flood zone. There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(9)	Llandow Trading Estate. Allocated Use: Employment. Plan 29 (Appendix 3).	Situated on historic landfill site which accepted industrial waste. If ground works are required then a Preliminary Risk Assessment would be required prior to development to assess the potential risk of contamination.	An ordinary watercourse runs in the vicinity of the site Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. If percolation drainage is not viable, any prospective developer should investigate the suitability of the watercourse to accept proposed surface water run-off. If suitable, surface water attenuation will be required with flows being limited to a discharge rate to be agreed. There is no public foul sewerage system within the vicinity of the site.
		LPA Comments	
		The site is not within an identified DAM flood zone. There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG9(10)	Vale Business Park, Llandow. Allocated Use: Employment. Plan 29 (Appendix 3).	No flooding related comments received	There is no watercourse available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. Any prospective developer should, in the first instance, investigate the suitability of the use of soakaways for the disposal of surface water run-off. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system. There is no public foul sewerage system within the vicinity of the site.
		LPA Comments	
		The site is not within an identified DAM flood zone. There are considered to be no flooding issues which would affect the allocation of this site in the LDP. Any planning application will need to be accompanied by a Surface Water Assessment, including appropriate consideration of the use of SUDs, to demonstrate that there would be no adverse impacts arising from the development.	

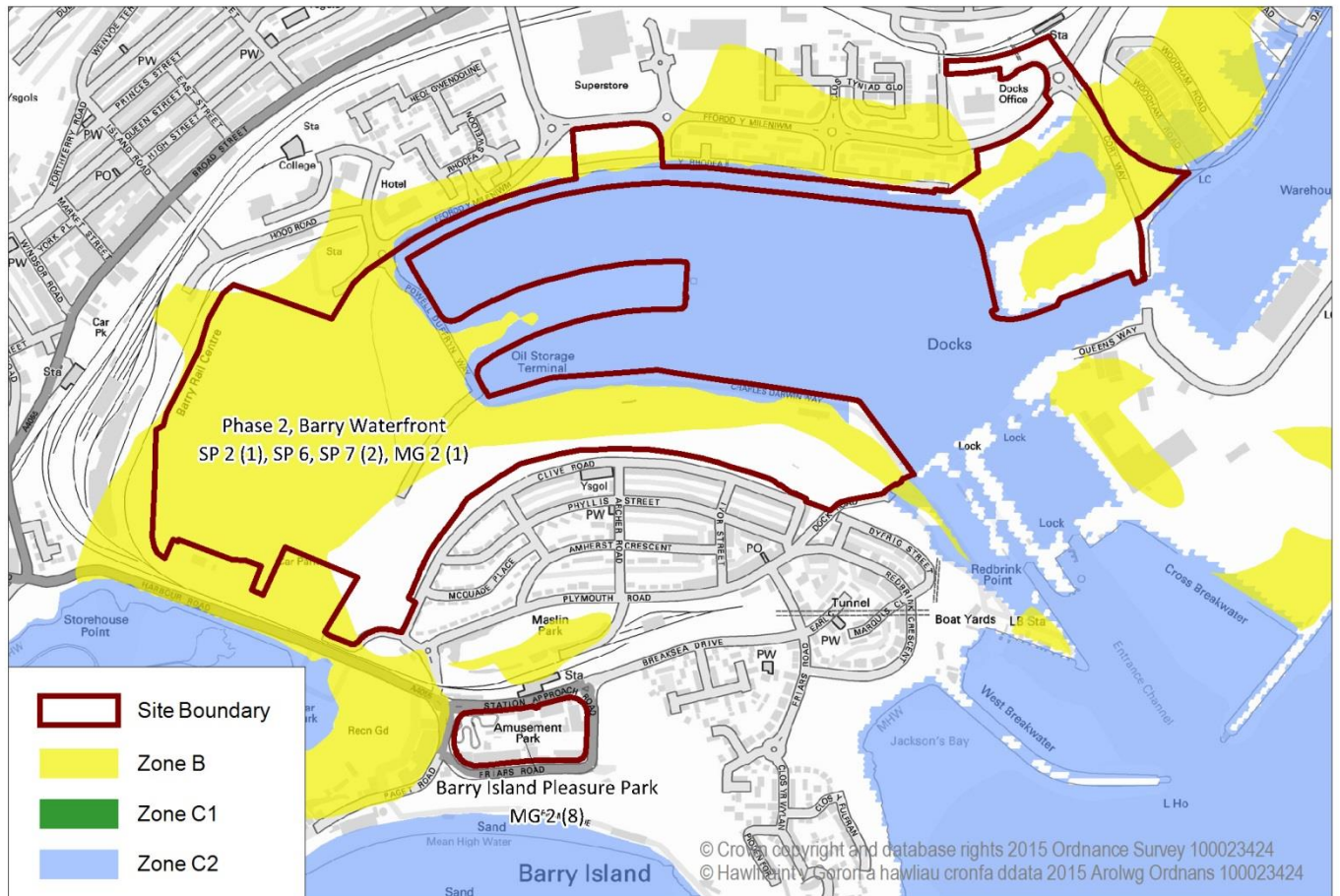
Gypsy and Traveller Site

	Site Name	Natural Resources Wales Comments	VoG Drainage Engineers Comments on Surface Water Requirements
MG5	<p>Land at Hayes Road, Sully.</p> <p>Allocated Use: 18 pitch Gypsy and Traveller Site.</p> <p>Plan 36 (Appendix 3).</p>	<p>As highlighted in your attached map, the northern part of the application site lies partially within Zone C2, as defined by the Development Advice Map (DAM) referred to under Technical Advice Note 15: Development and Flood Risk (TAN15) (July 2004). Our Flood Map information, which is updated on a quarterly basis, confirms the site to be within the 0.5% (1 in 200 year) and 0.1 (1 in 1000 year) tidal flood outlines of the Severn Estuary.</p> <p>We consider the proposal to be highly vulnerable development as set out in section 5.1 of TAN 15. With reference to Section 6 of TAN15, this development category should not be permitted in Zone C2. We remind you that if your Authority decides to take this allocation forward, then it will be contrary to TAN 15. This may have implications during the examination of your Authority's Local Development Plan.</p> <p>If your Authority does take this allocation forward then the risks and consequences will need to be fully considered over the lifetime of development. We therefore recommend that a flood consequences assessment is prepared prior to allocating this site, which meets the criteria of TAN 15. The purpose of the FCA is to ensure that all parties, including your Authority, are aware of the risks to and from the development, and ensure</p>	<p>No watercourse is available for the discharge of surface water within the immediate vicinity of the site. The consideration for surface water disposal and management will therefore have to be assessed. The developer should ensure that an assessment is carried out into the potential for disposing of the surface water by means of a sustainable drainage system.</p> <p>There is a surface water drainage system discharging to soakaway, via a petrol interceptor, serving the existing development adjacent to Hayes Road. Surface water run-off from the northern part of the proposed development may be able to be accommodated within the existing surface water drainage system and this should be investigated by the prospective developer. The Council will require betterment for flows draining towards Hayes Road as there is a known flood risk in this area and this matter should be discussed with the Council acting as LLFA.</p> <p>Although a buffer has been left to the south of the site, an existing car park, it is noted that this area of land has been identified within the National Coastal Erosion Risk Mapping (NCERM) dataset as being at risk from coastal erosion. At present the Shoreline Management Policy is No Active Intervention in this area.</p> <p>Dwr Cymru Welsh Water have advised that the existing water and sewerage infrastructure would be able to accommodate demands from this site but a small amount of</p>

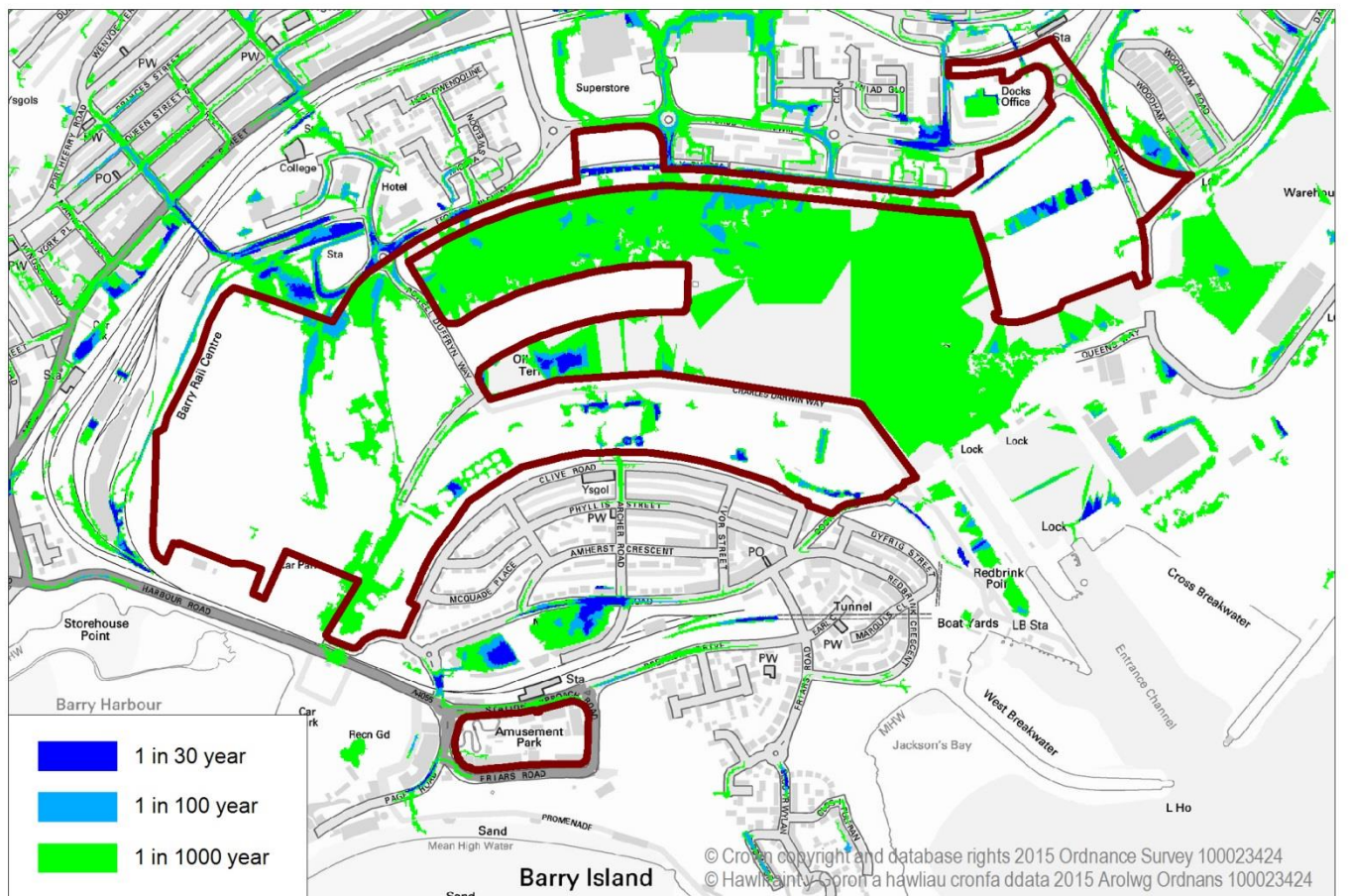
		<p>that if practicable, appropriate controls can be incorporated to manage the risks and consequences of flooding.</p> <p>We suggest you consider the criteria outlined within the A1.12 of TAN 15 when considering whether the site is suitable for development as highly vulnerable development.</p>	<p>new off-site and/or on-site water mains and sewers will be required, which can be provided under the requisition provisions of sections 41-44 and 98-101 of the Water Industry Act 1991.</p>
		<p>LPA Comments</p> <p>Revised 2015 DAM show partial C2 coverage of the site. Therefore development of the site would require an FCA to ensure a full understanding of risks and impacts of the development.</p>	

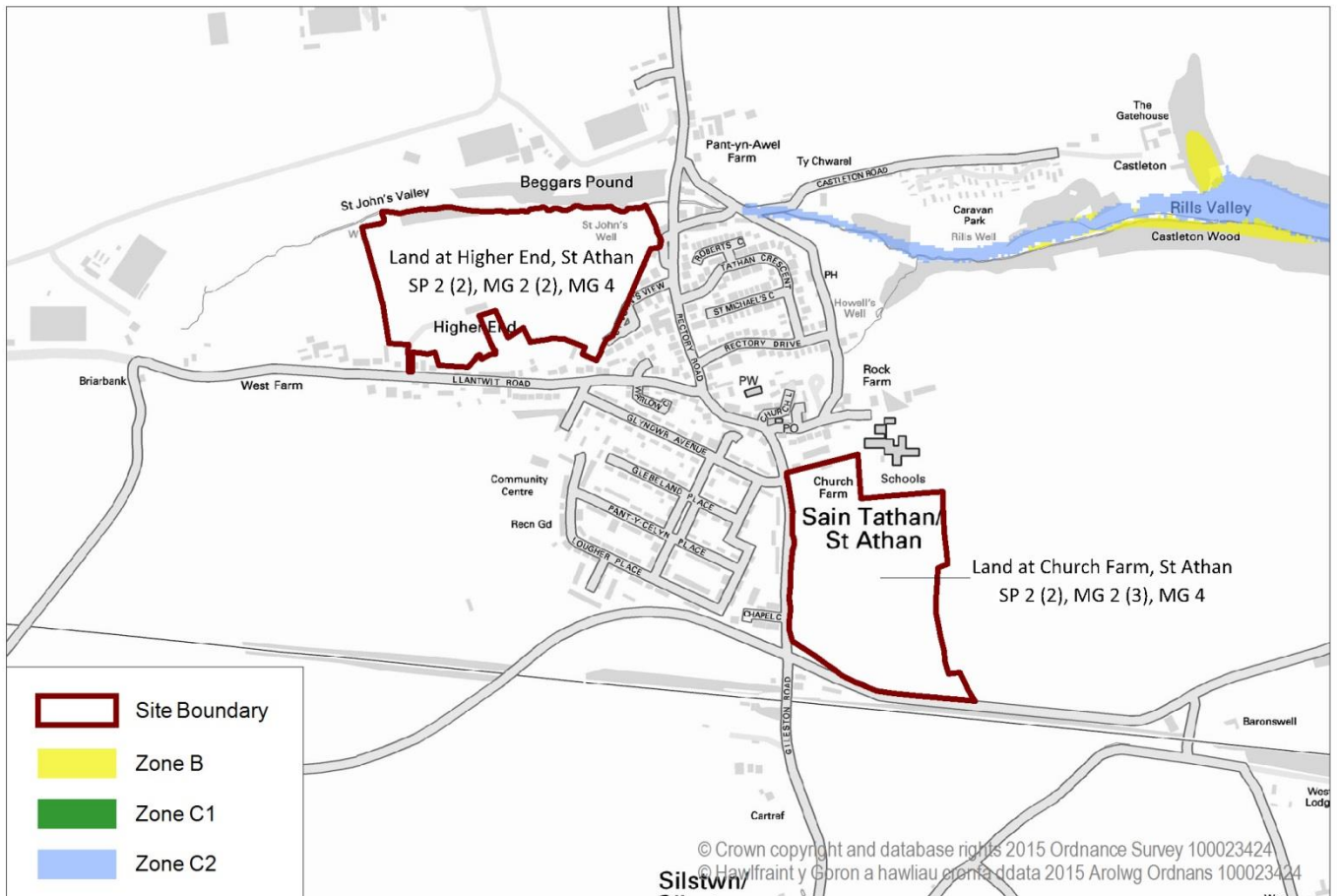
Appendix 3: Allocated Residential & Employment Site Plans showing Development Advice Maps – Flood Zones and Surface Water Flood Maps

Development Advice Maps - Flood Zones - January 2015

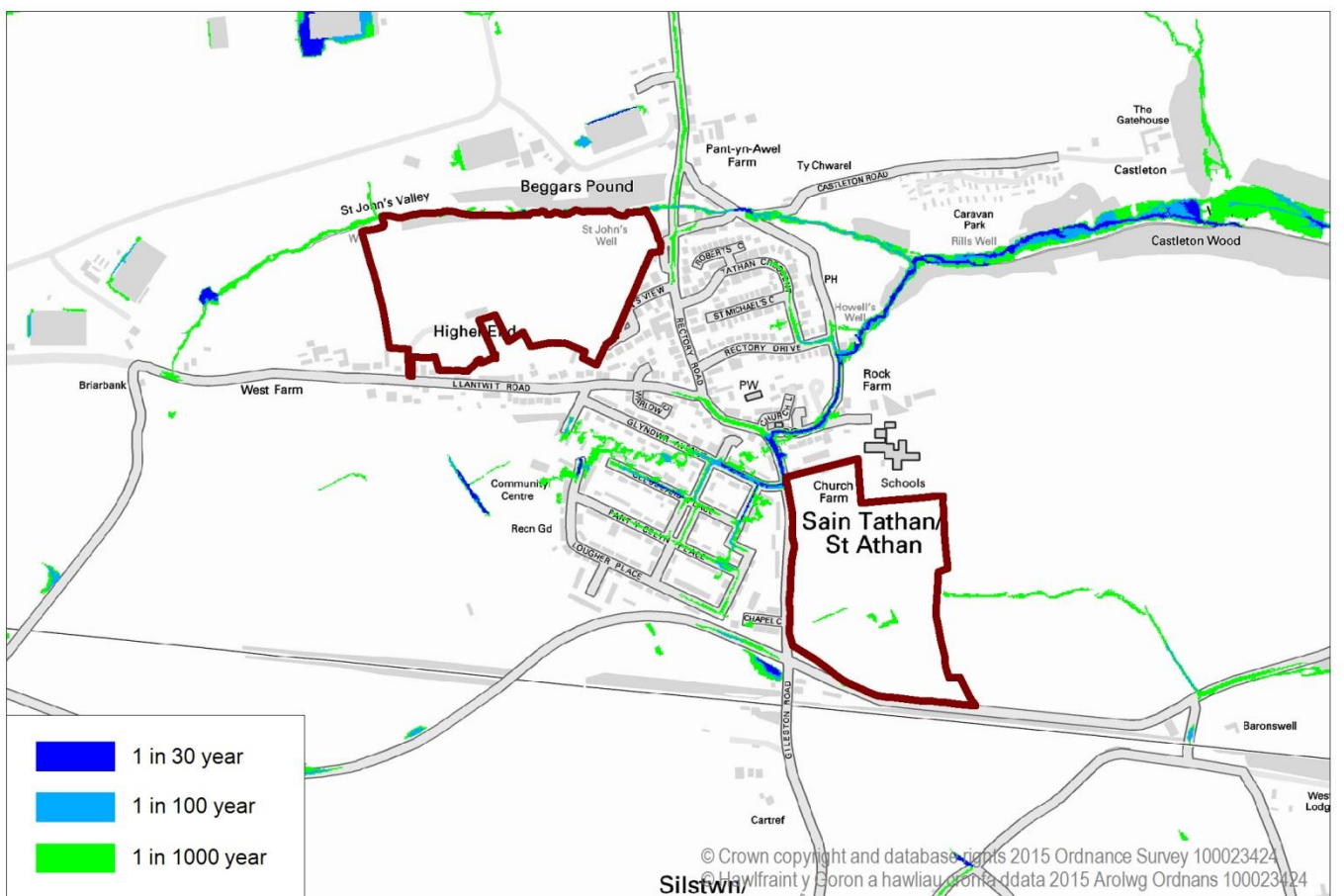


Flood Map for Surface Water - updated November 2013

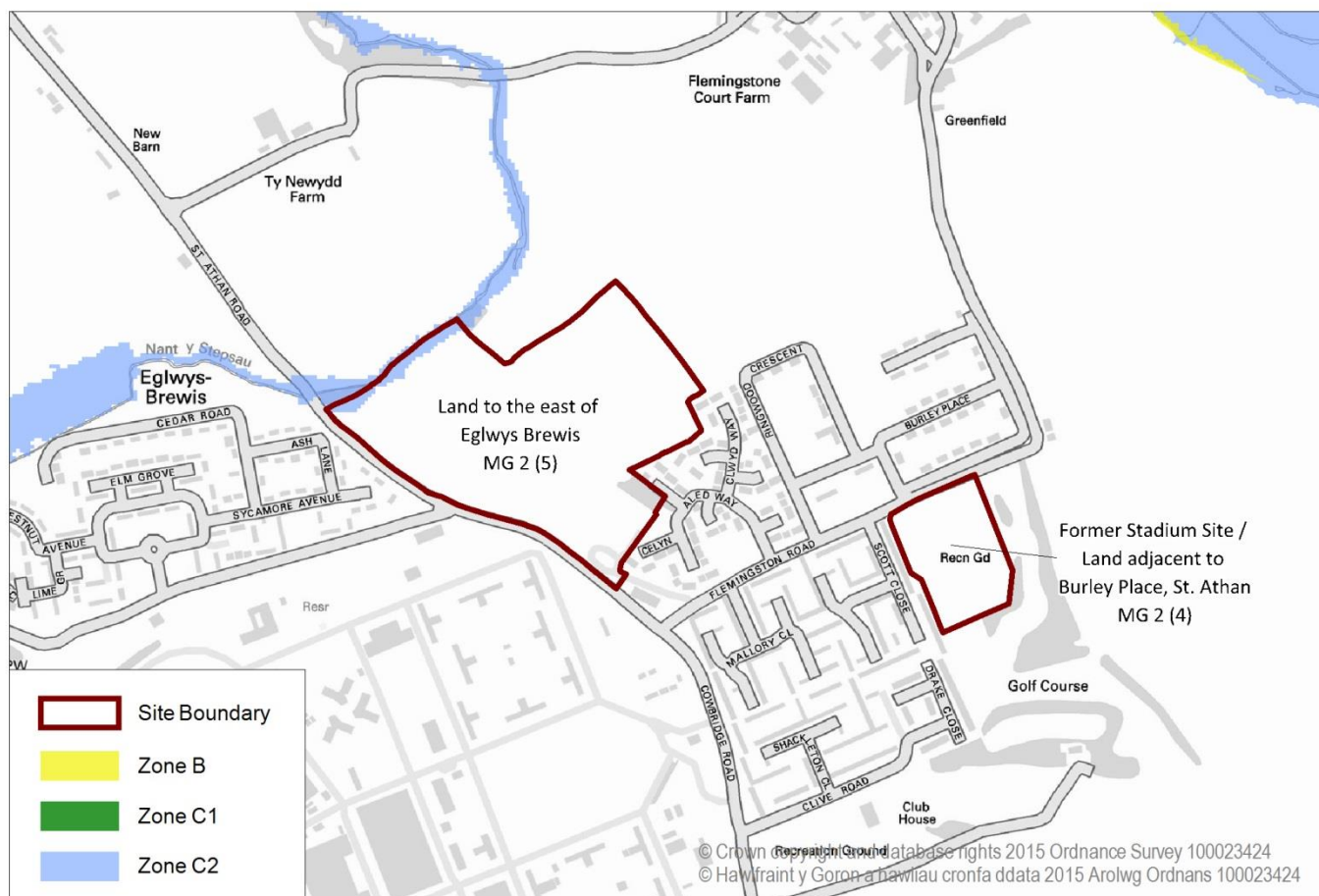




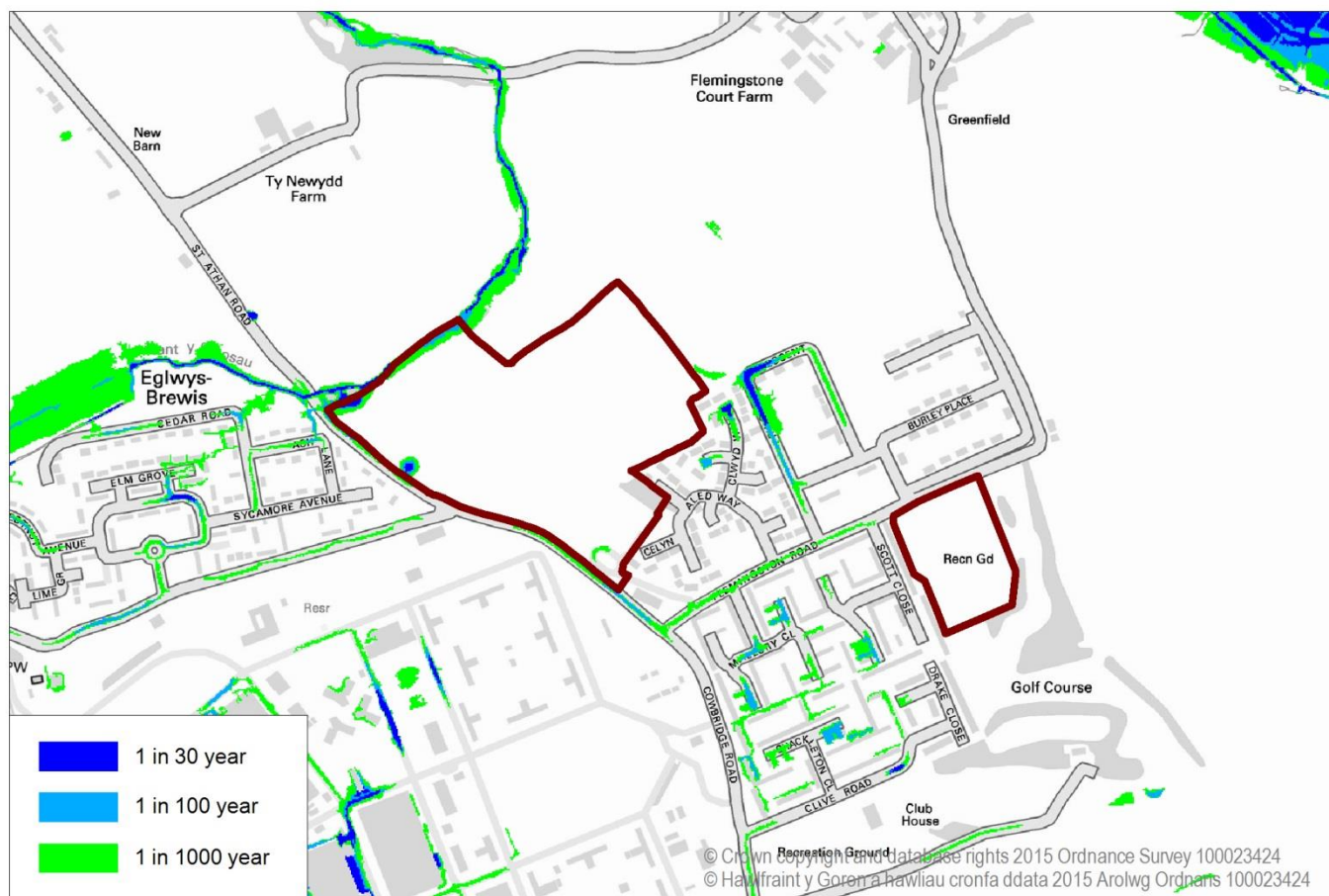
Flood Map for Surface Water - updated November 2013



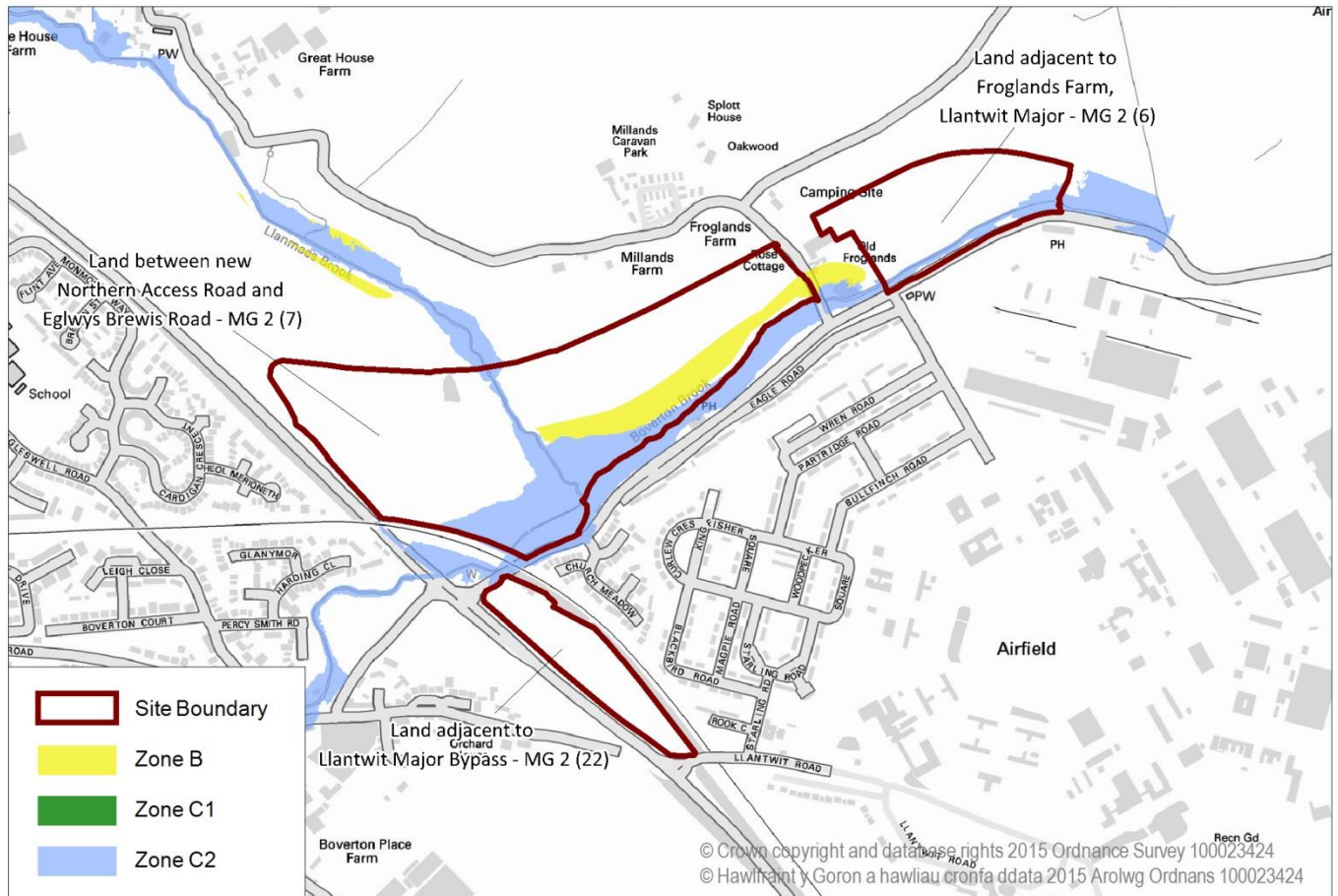
Development Advice Maps - Flood Zones - January 2015



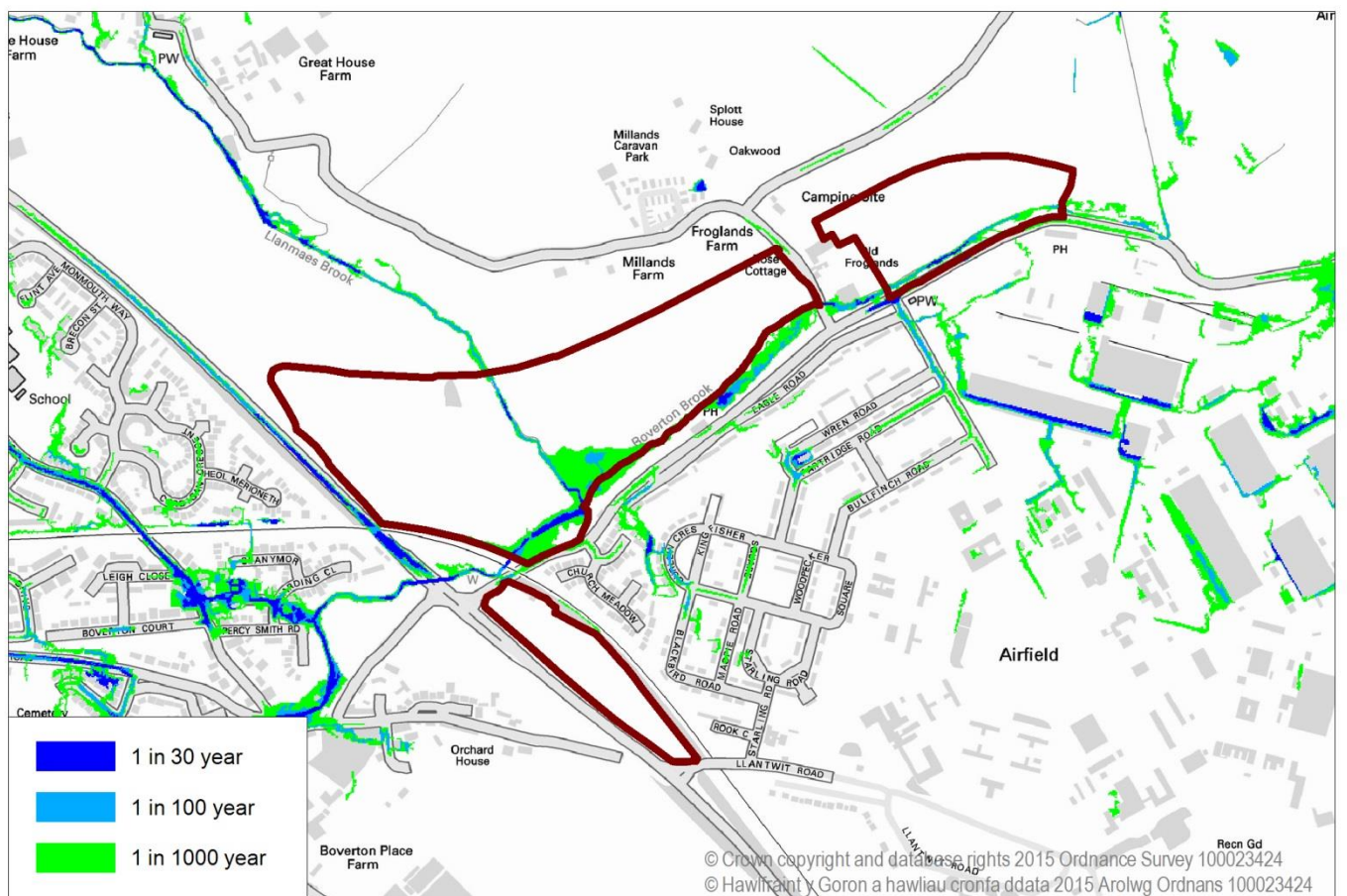
Flood Map for Surface Water - updated November 2013



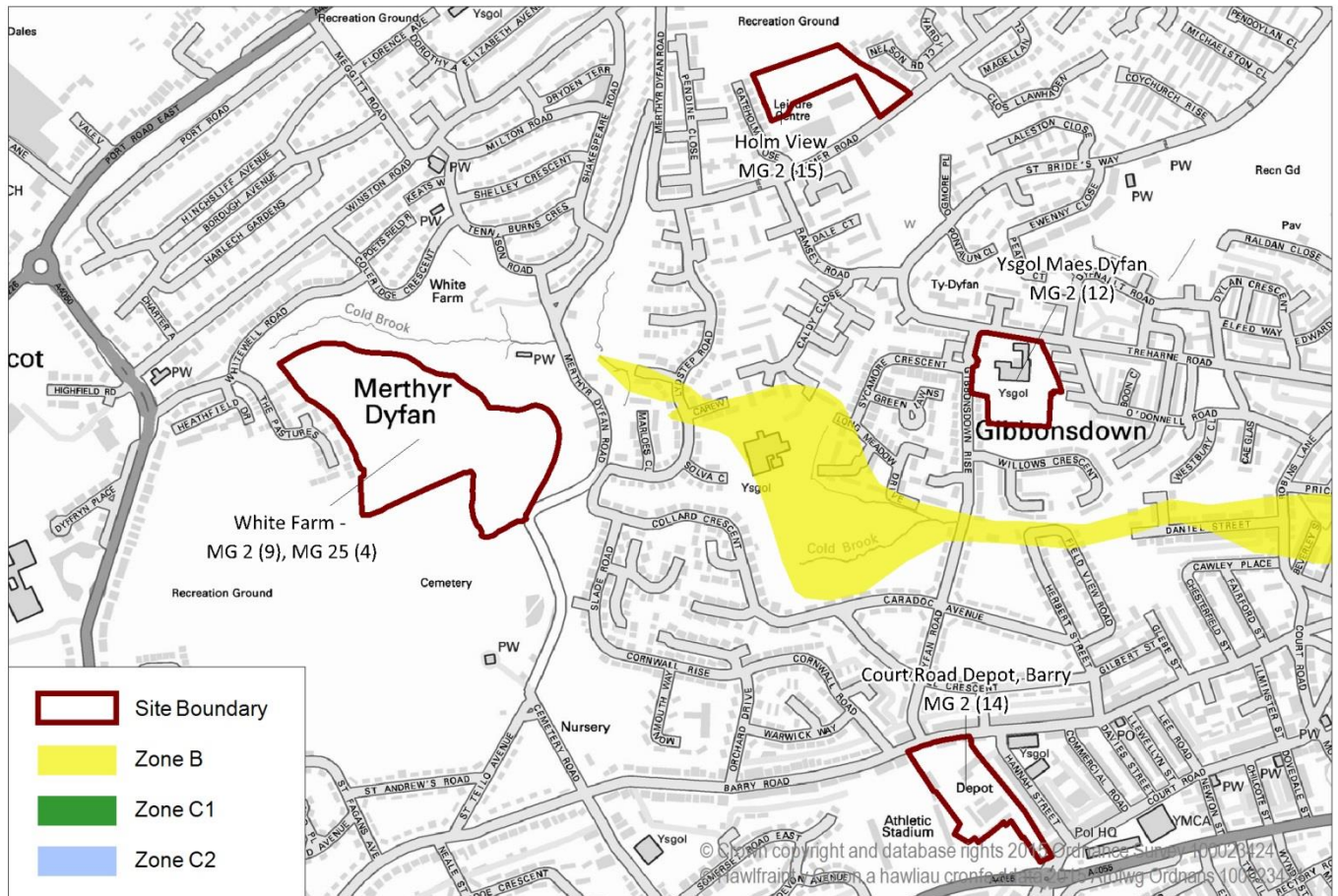
Development Advice Maps - Flood Zones - January 2015



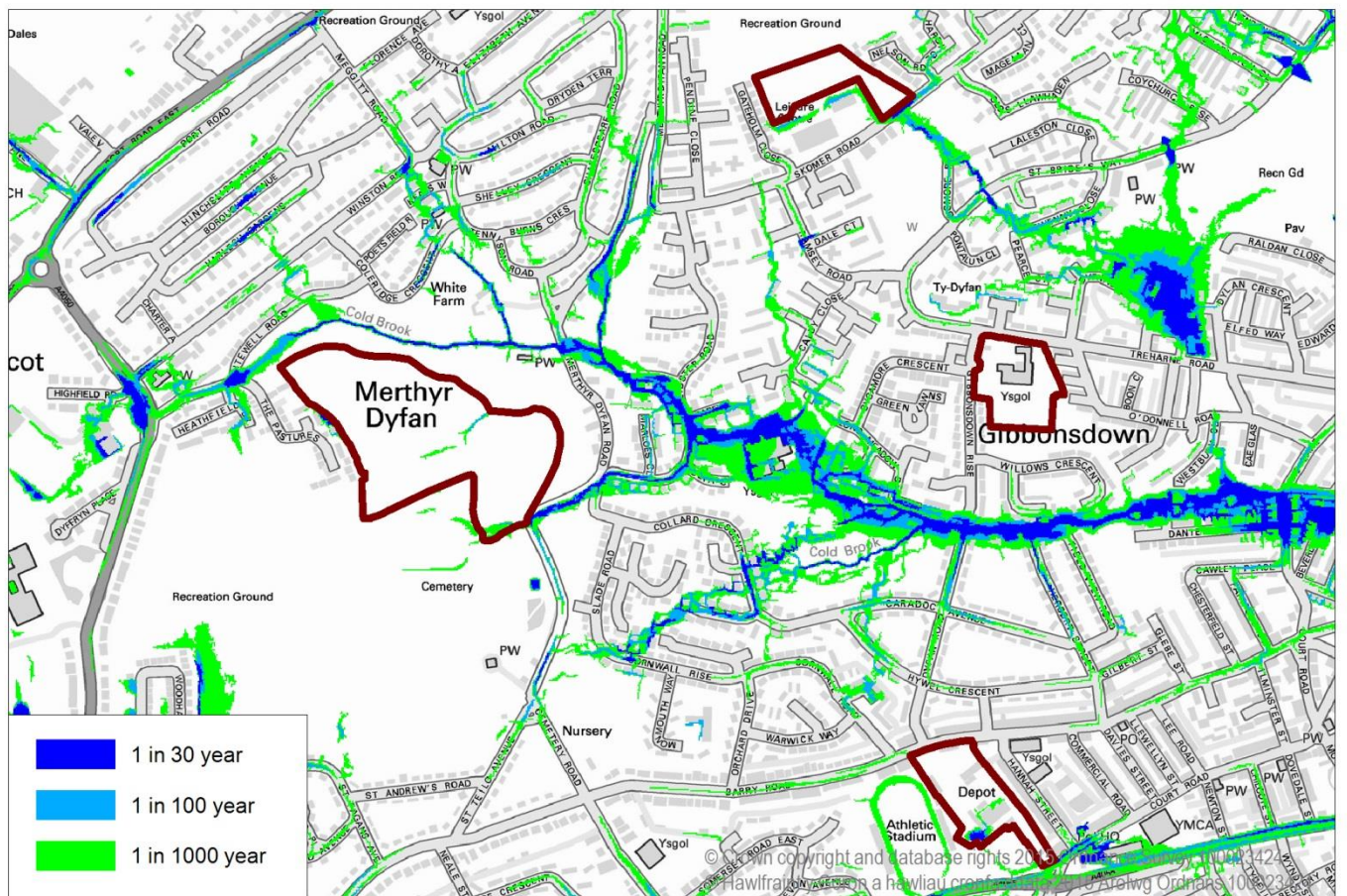
Flood Map for Surface Water - updated November 2013



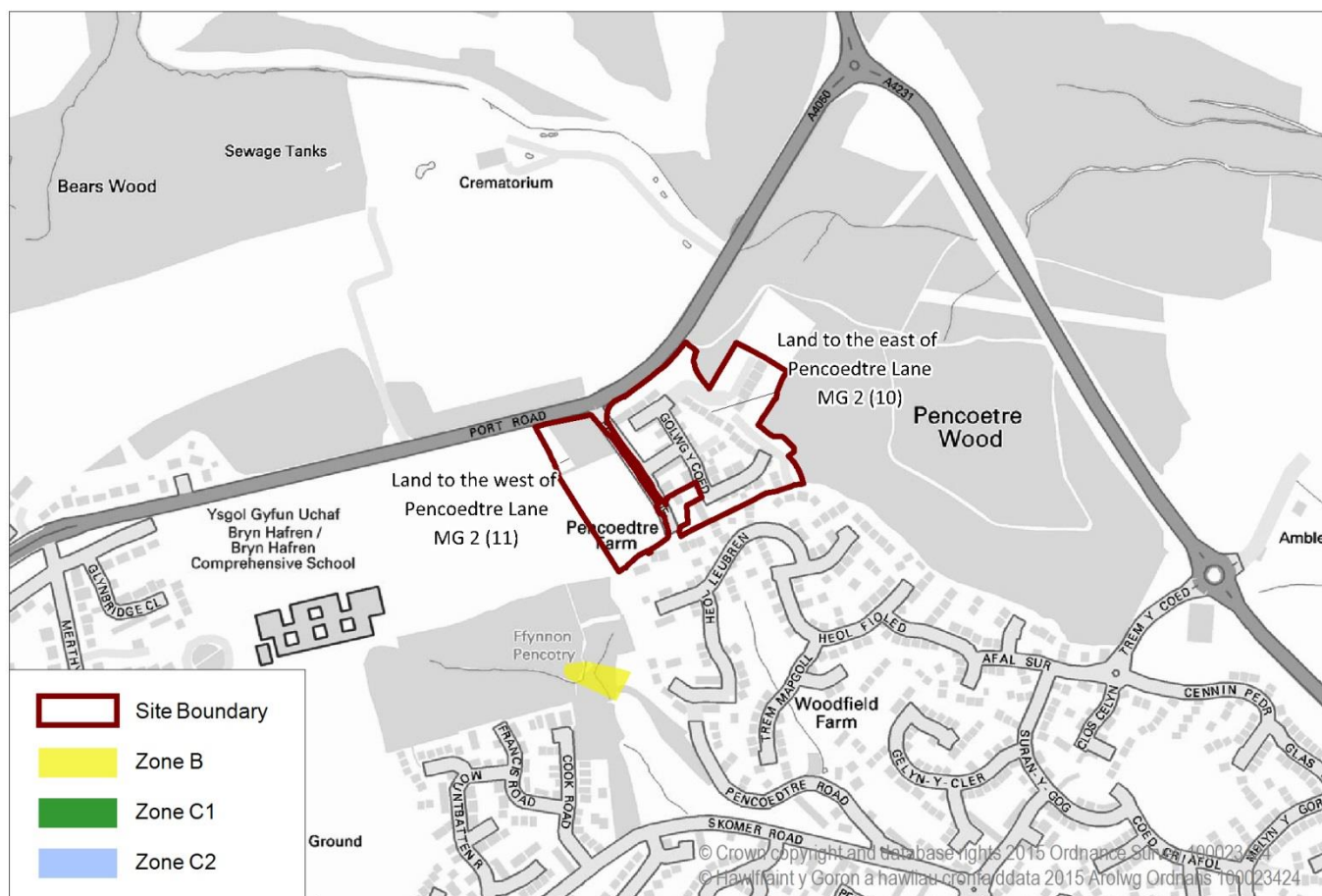
Development Advice Maps - Flood Zones - January 2015



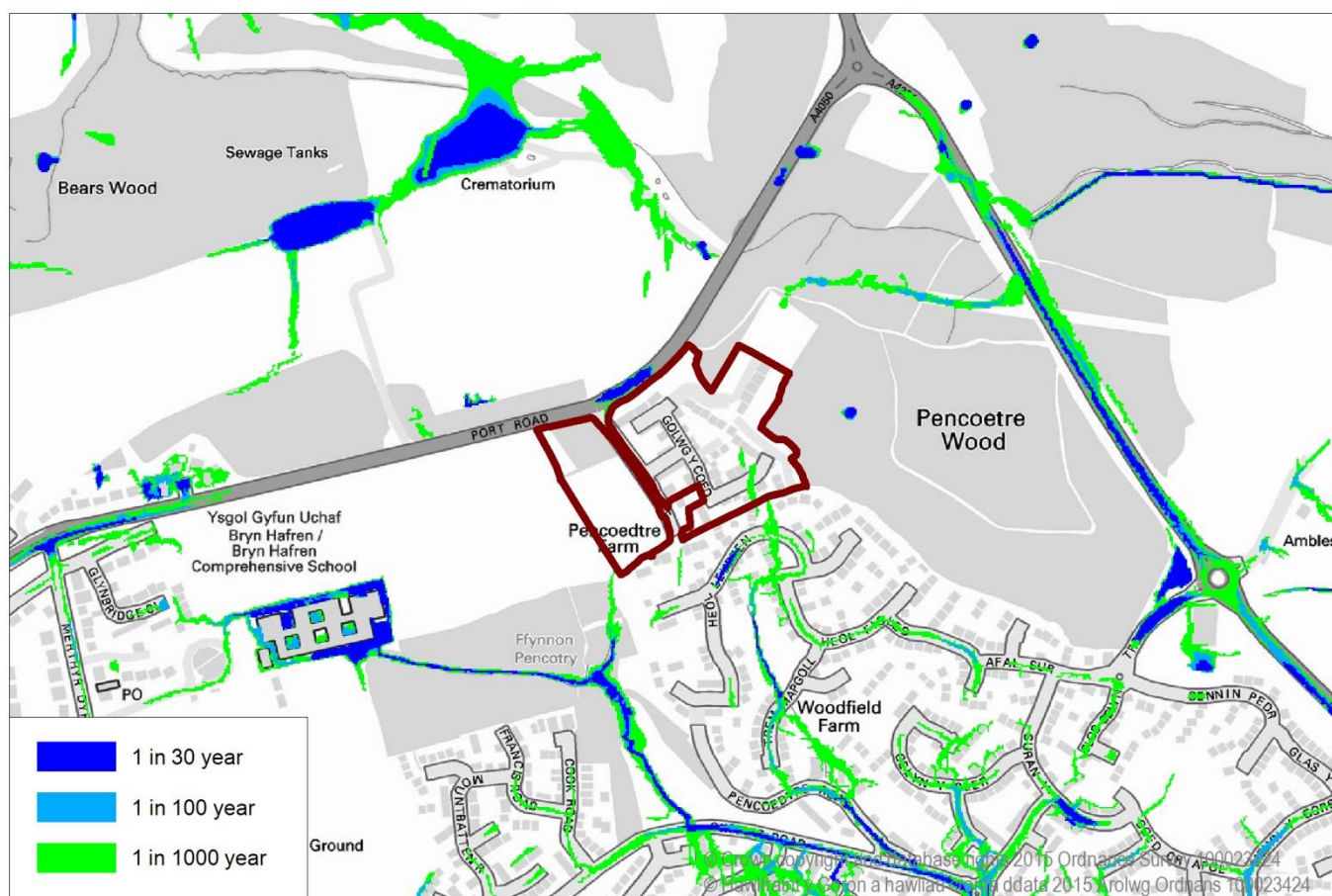
Flood Map for Surface Water - updated November 2013

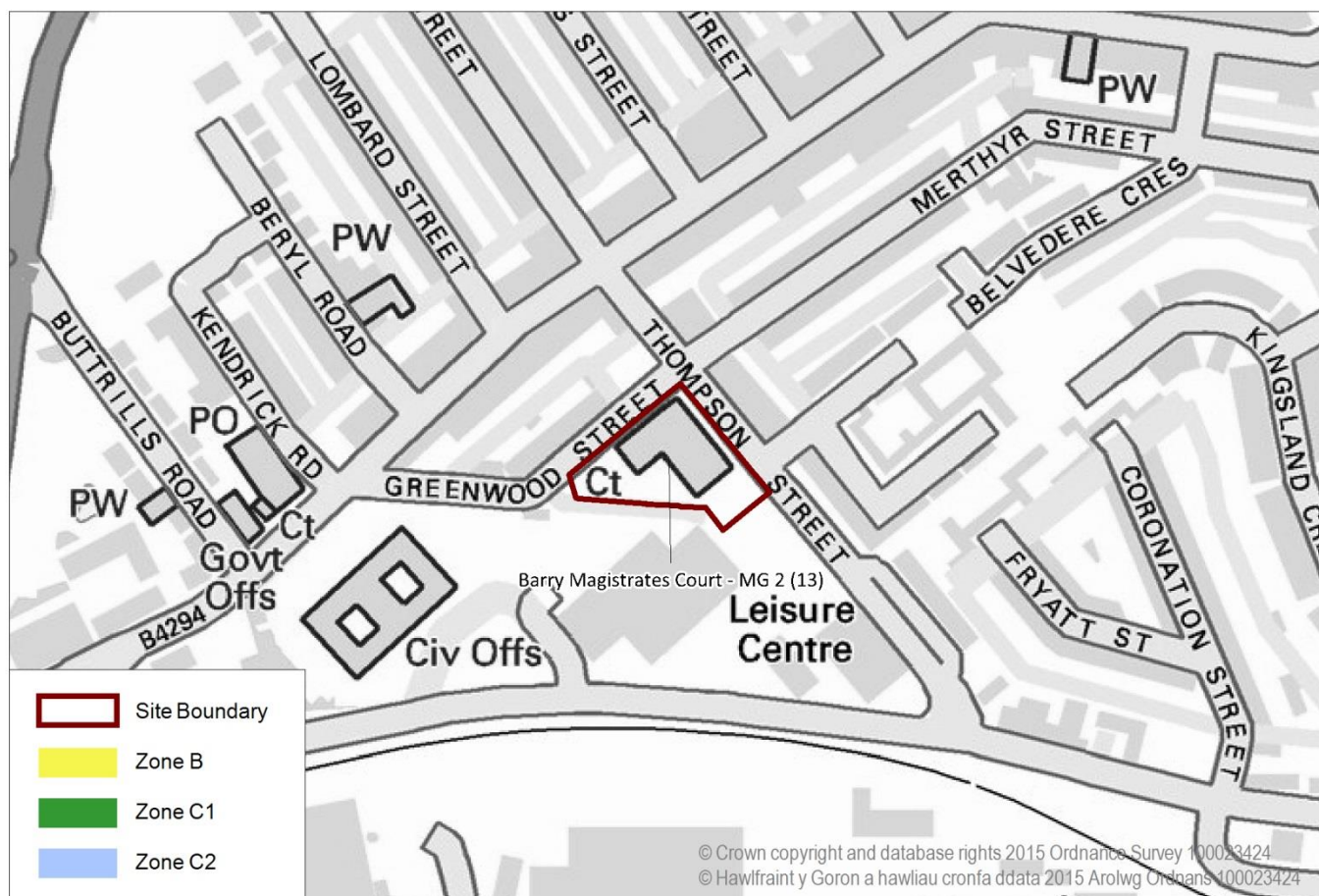


Development Advice Maps - Flood Zones - January 2015



Flood Map for Surface Water - updated November 2013

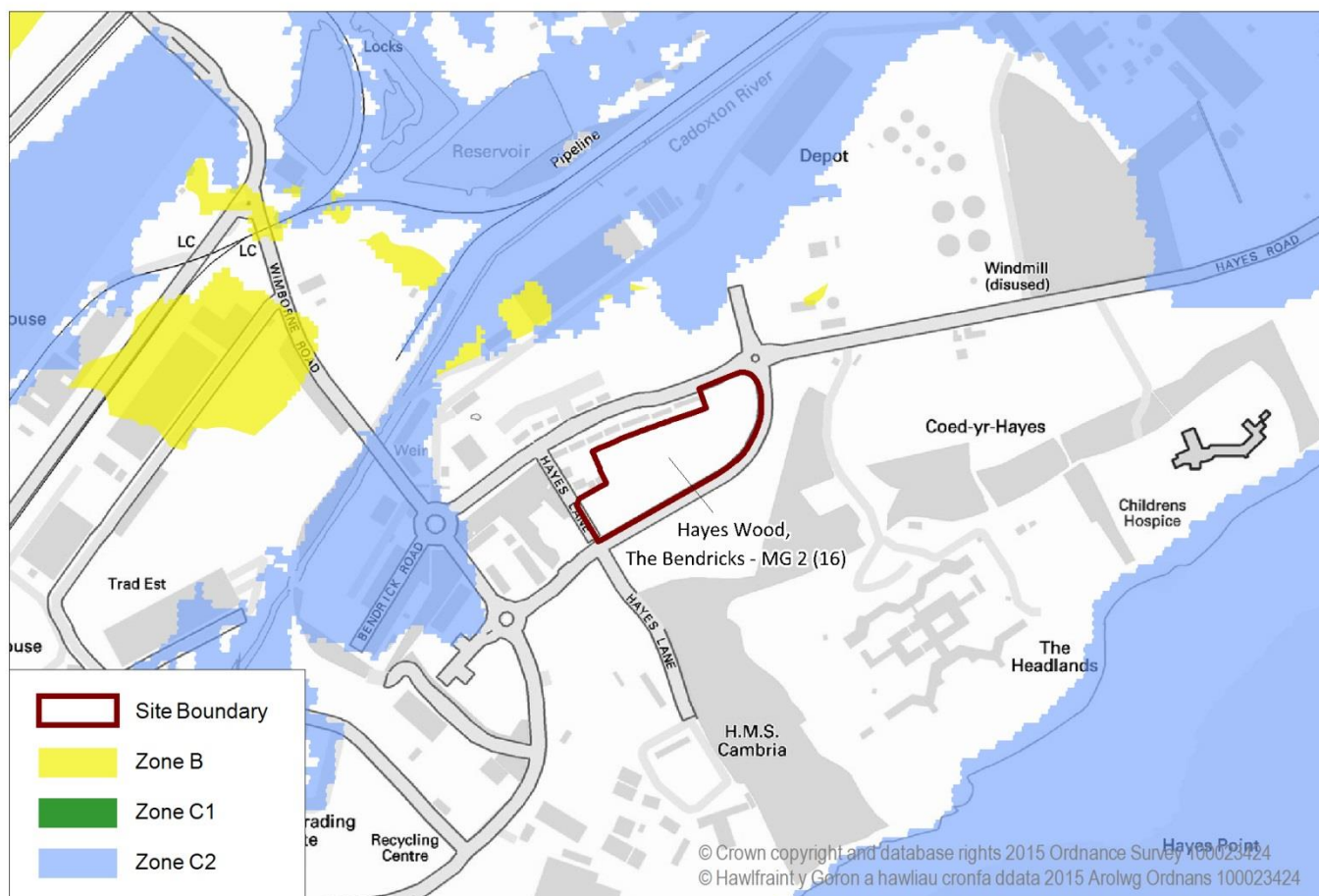




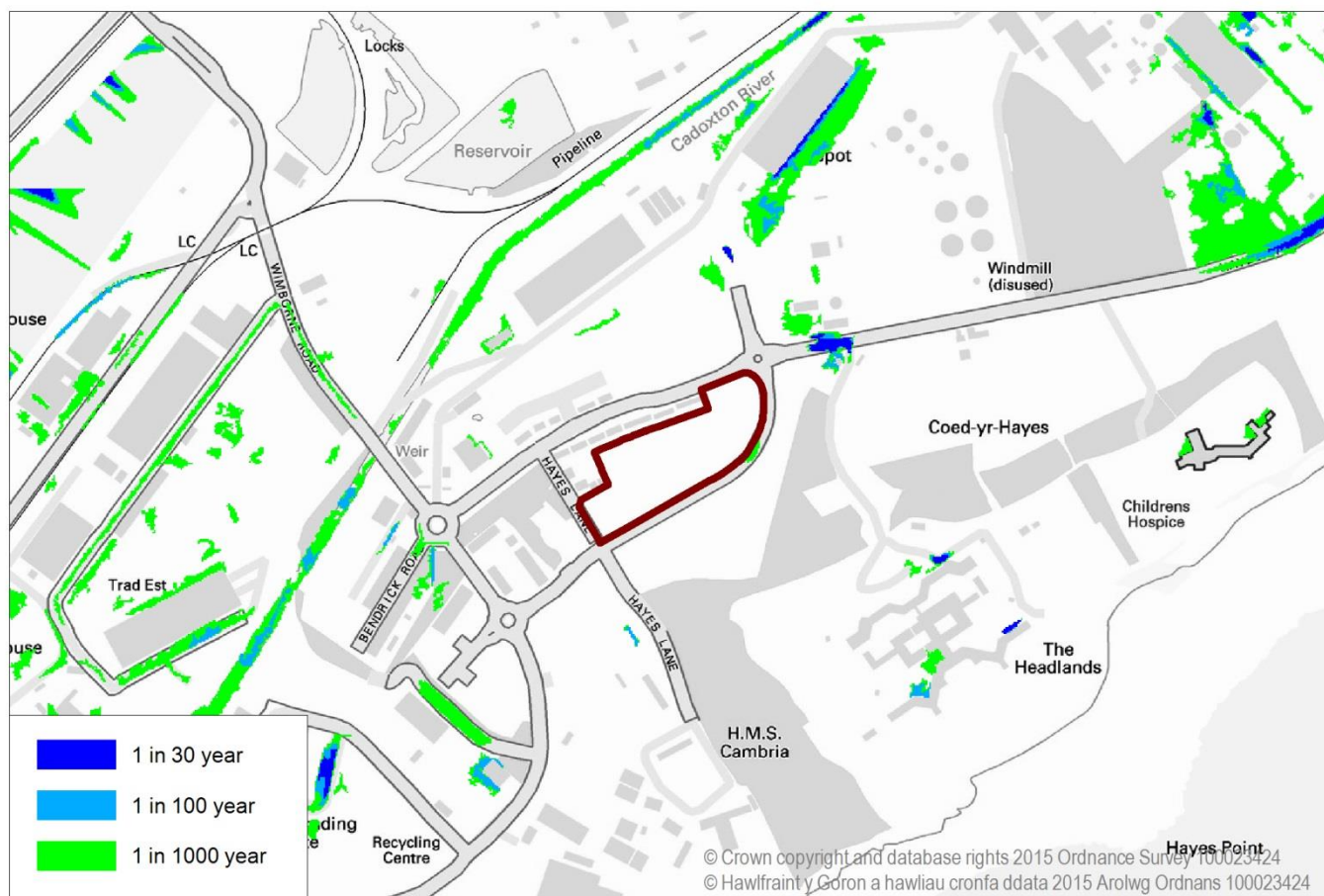
Flood Map for Surface Water - updated November 2013

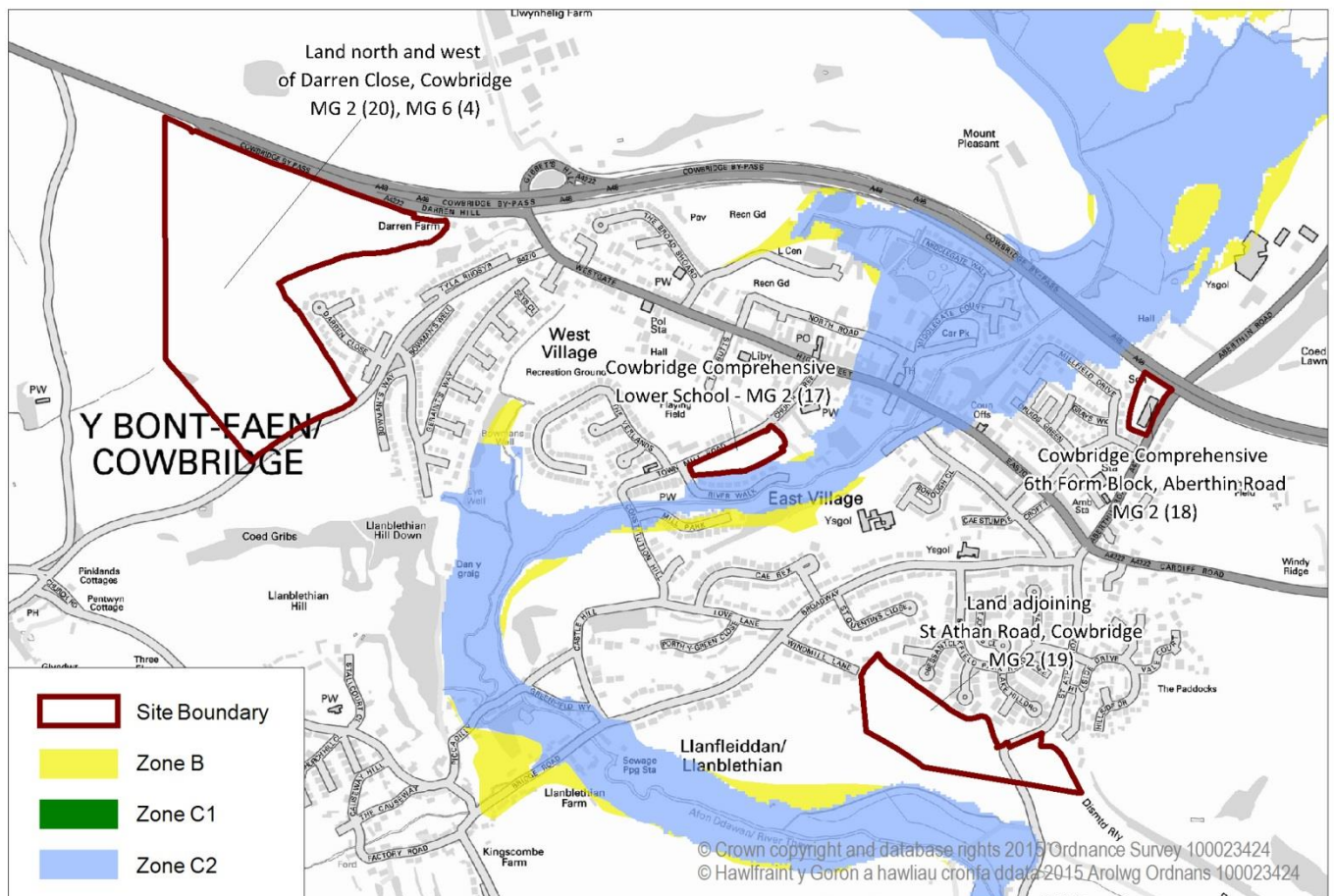


Development Advice Maps - Flood Zones - January 2015

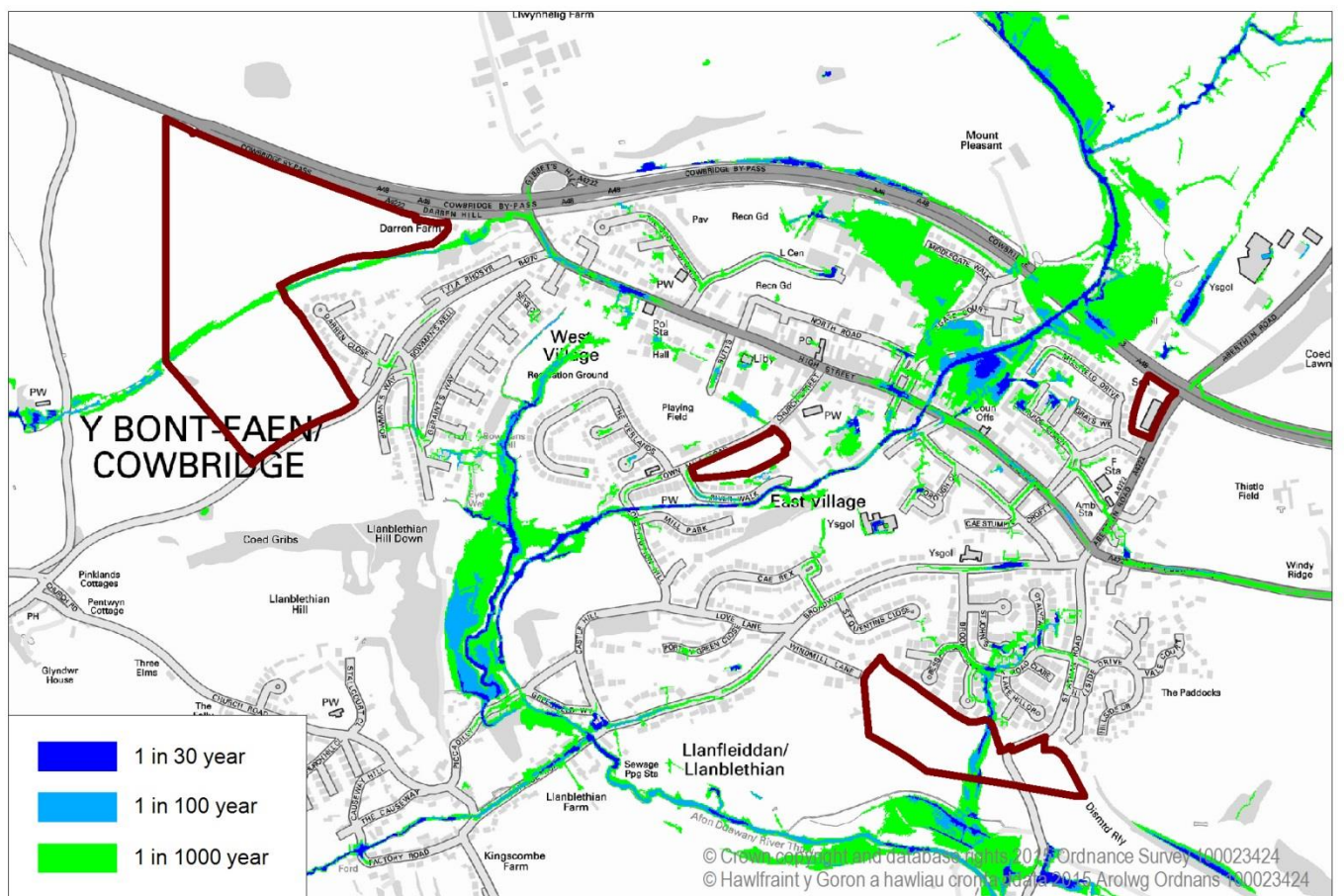


Flood Map for Surface Water - updated November 2013

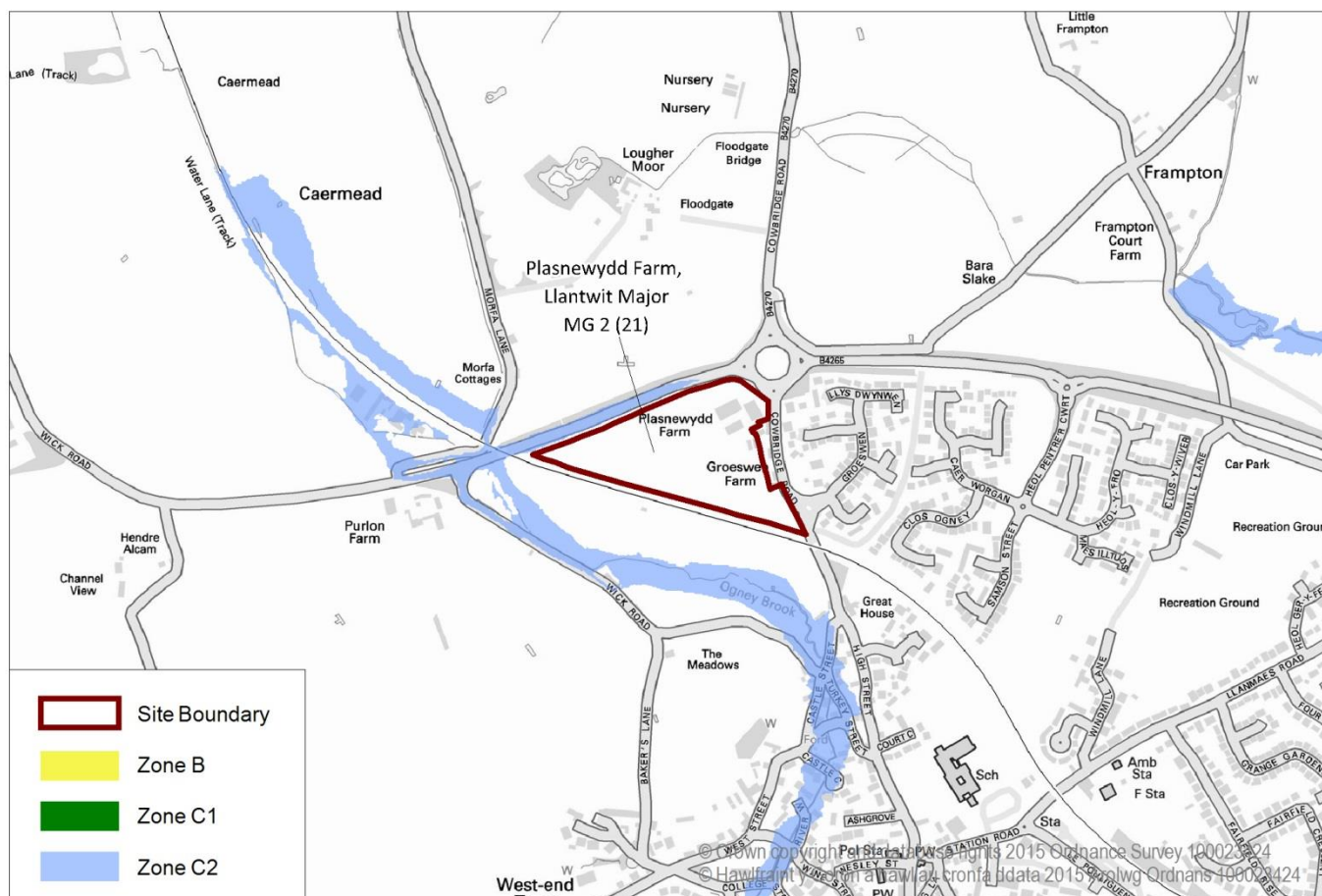




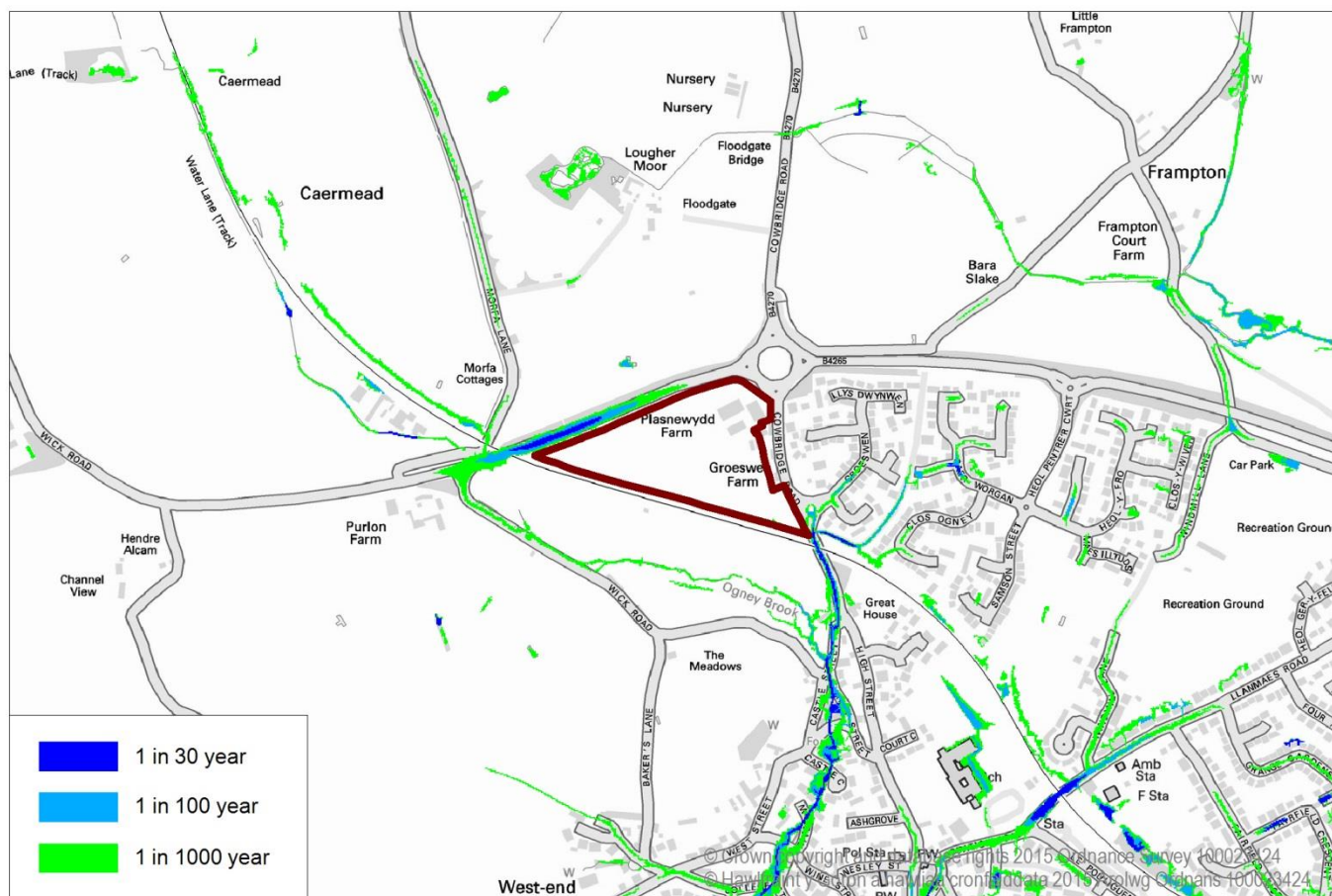
Flood Map for Surface Water - updated November 2013



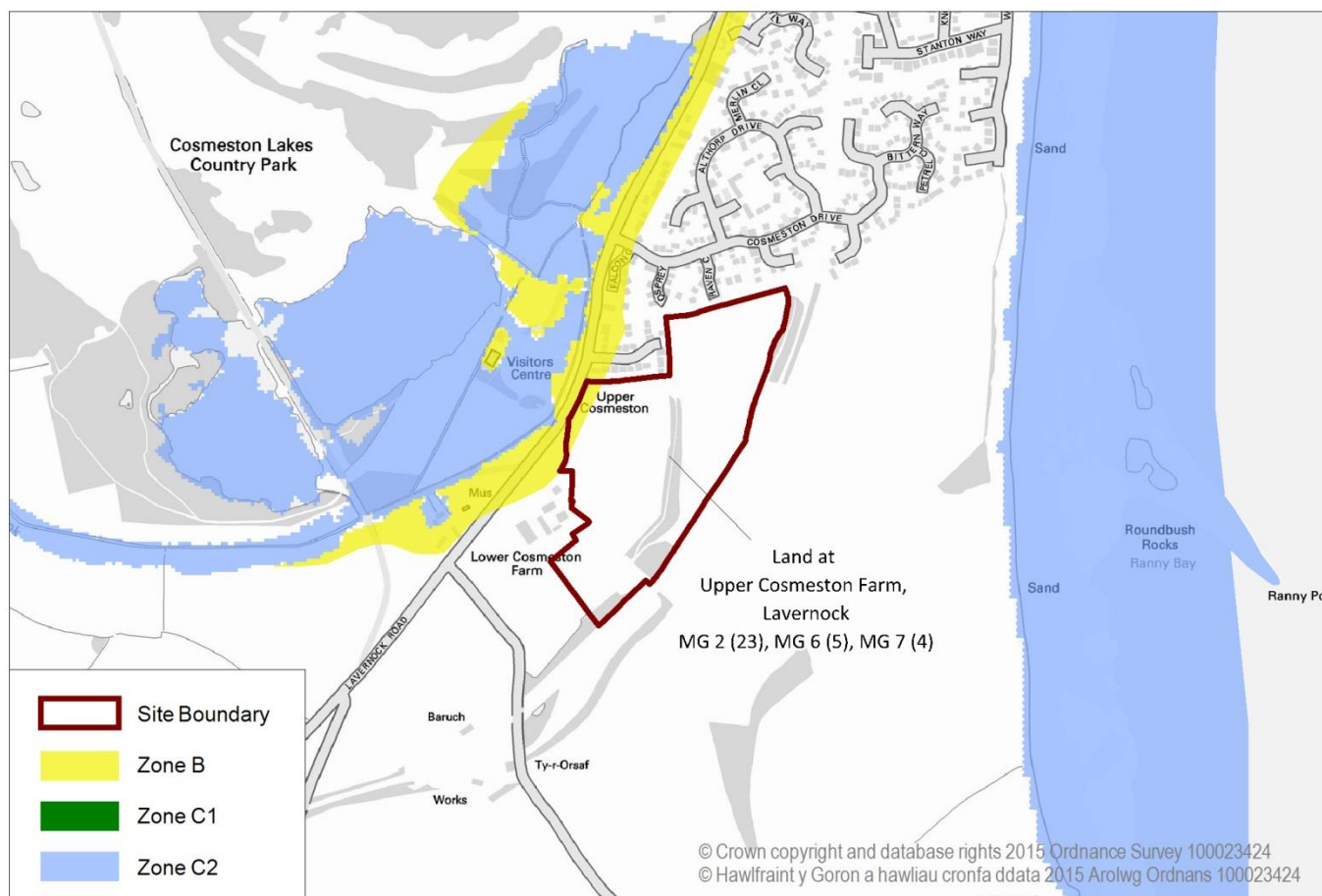
Development Advice Maps - Flood Zones - January 2015



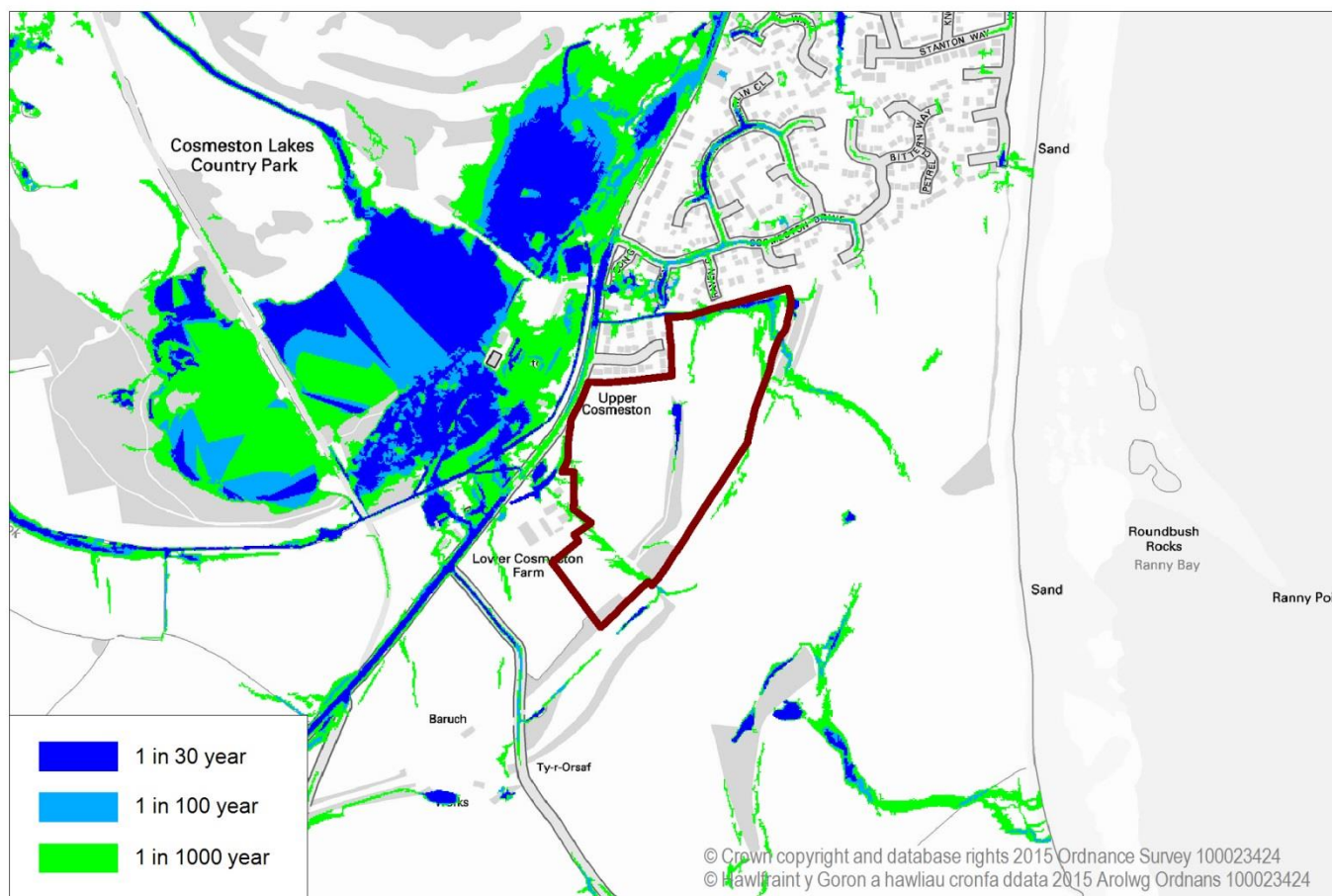
Flood Map for Surface Water - updated November 2013



Development Advice Maps - Flood Zones - January 2015



Flood Map for Surface Water - updated November 2013

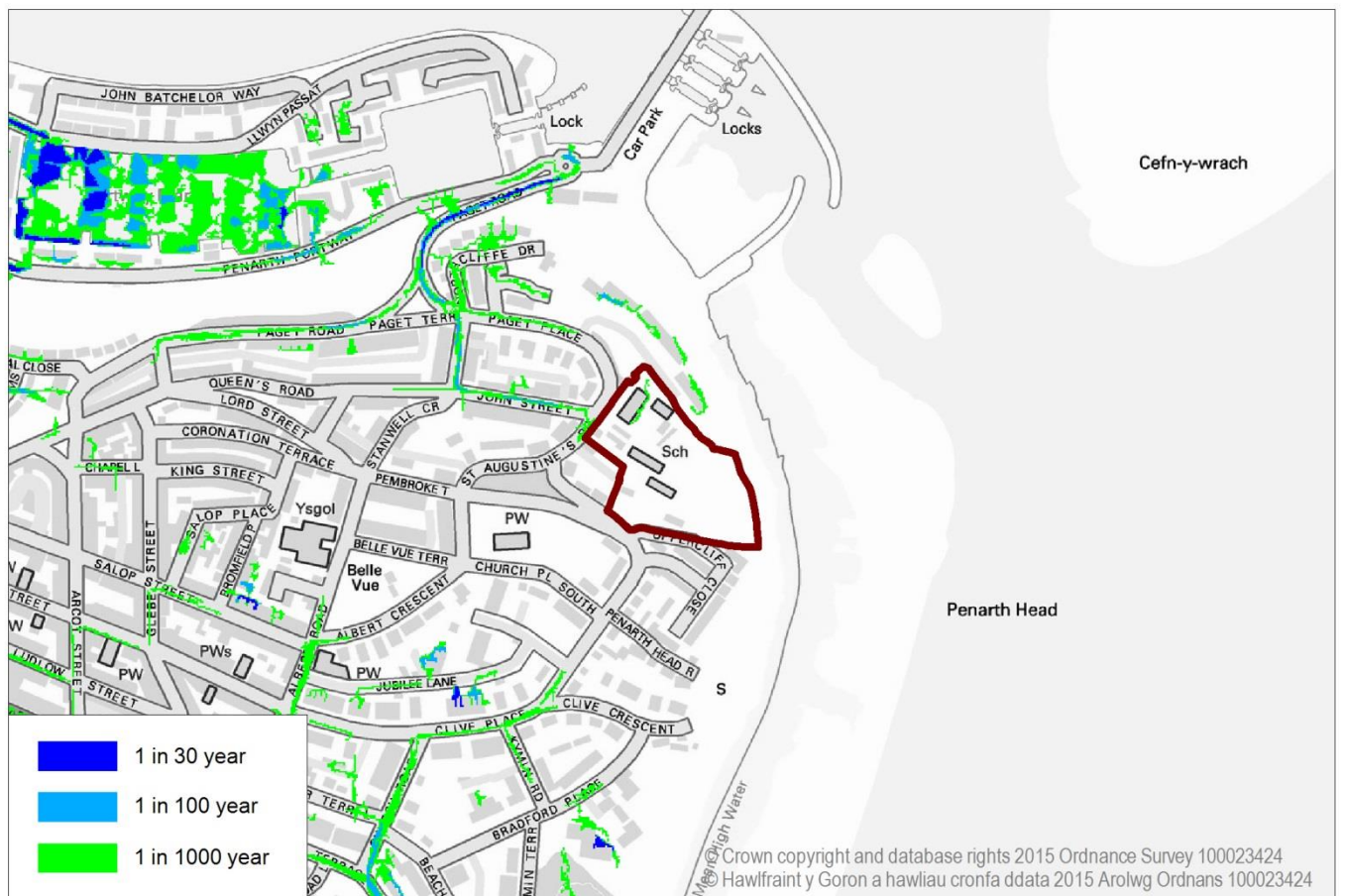


Map of the Murch, Morristown, and Lower enarth areas showing flood risk. The map includes a legend for flood risk levels: 1 in 30 year (dark blue), 1 in 100 year (light blue), and 1 in 1000 year (green). The map shows various roads, buildings, and landmarks such as St Cyres Comprehensive School, Ashgrove School, and the Cross Common. A red outline highlights a specific area of interest.

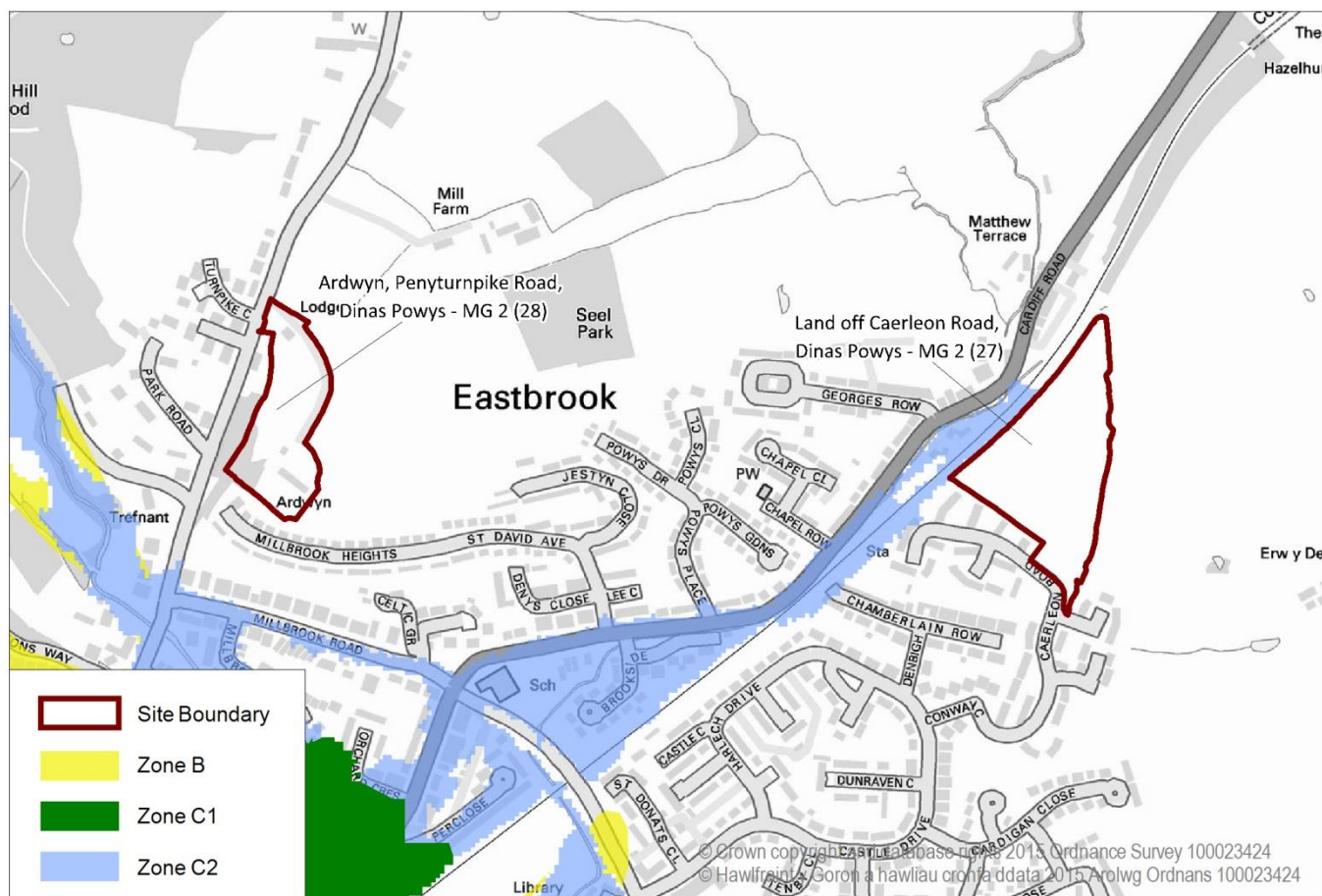
Development Advice Maps - Flood Zones - January 2015



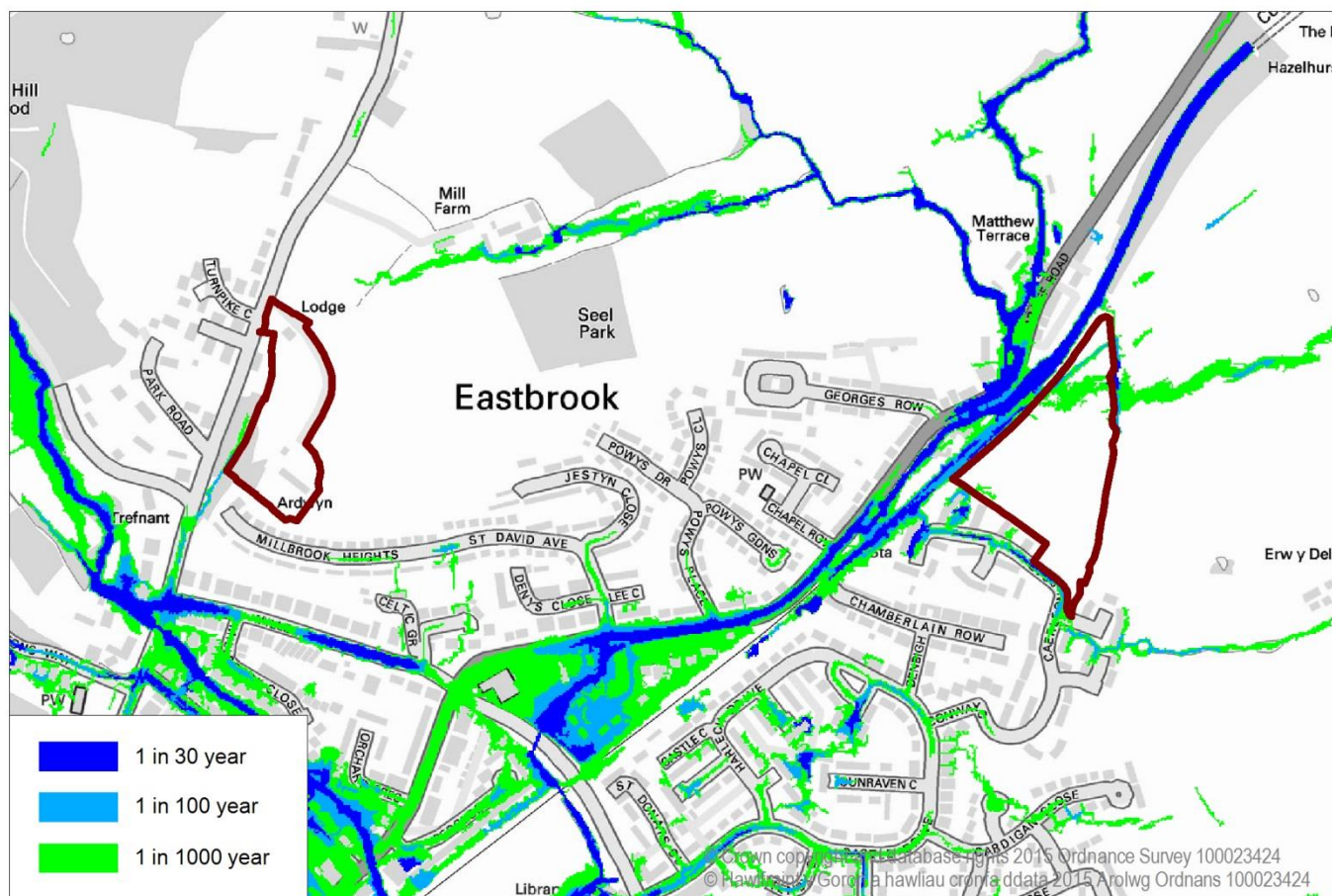
Flood Map for Surface Water - updated November 2013



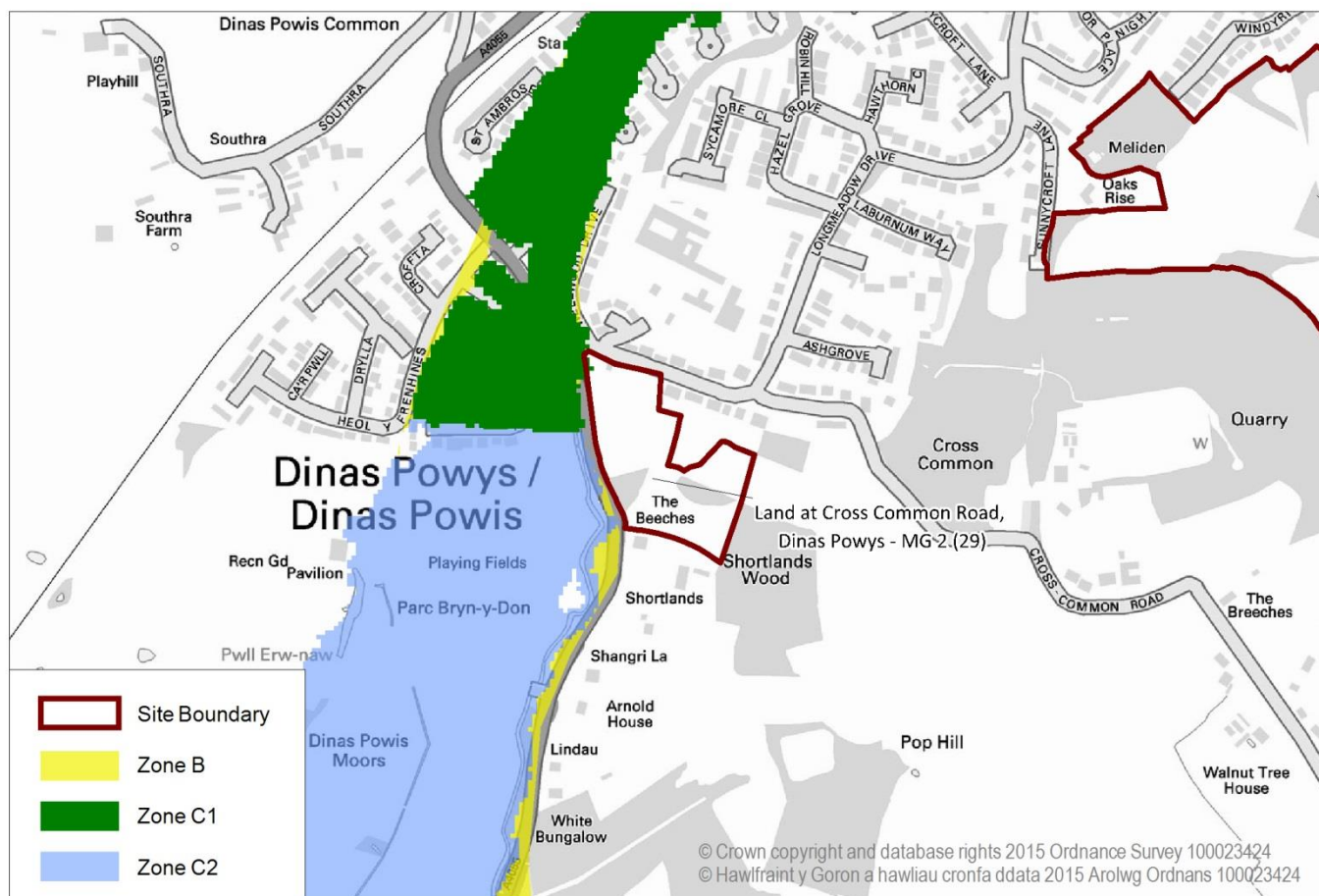
Development Advice Maps - Flood Zones - January 2015



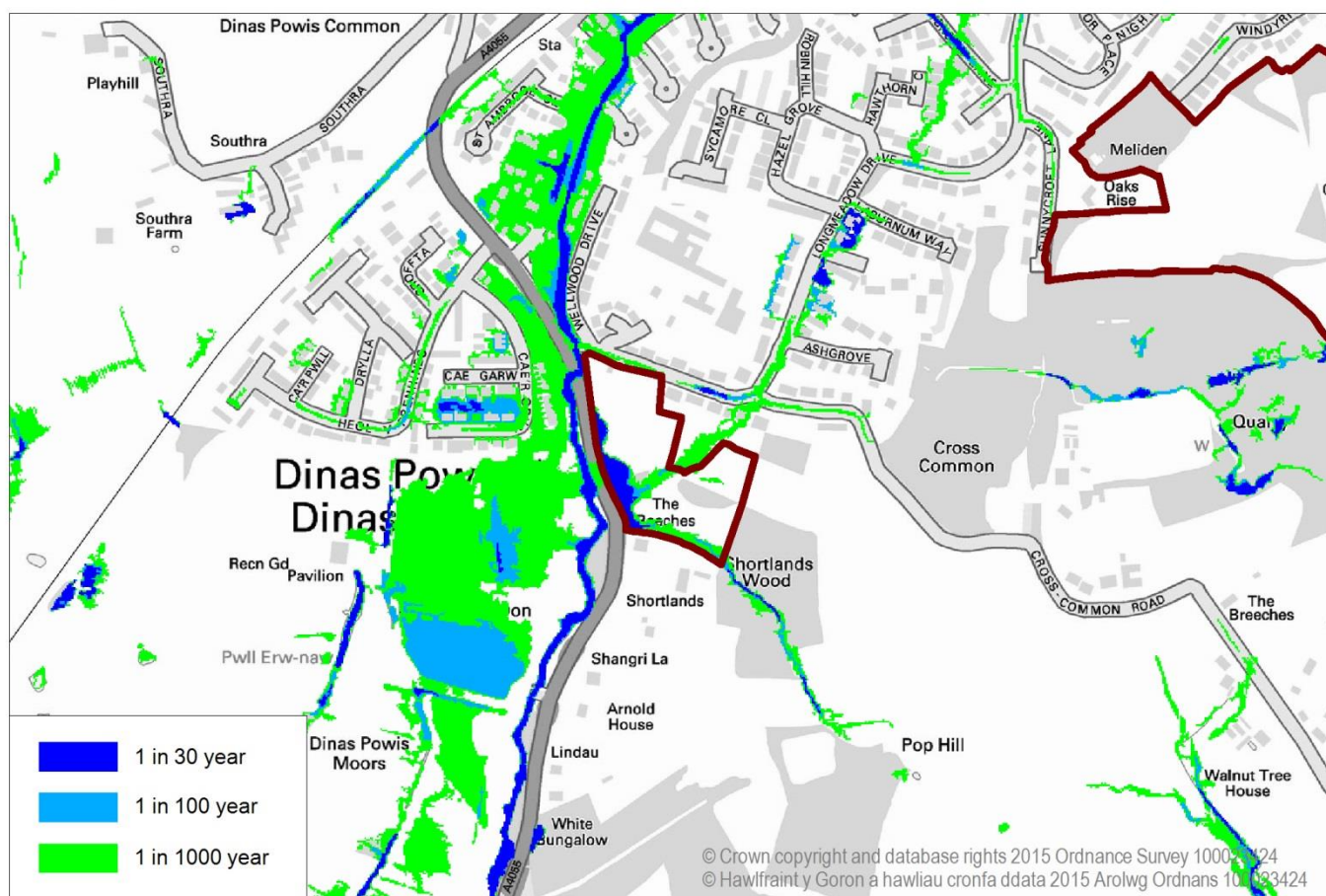
Flood Map for Surface Water - updated November 2013



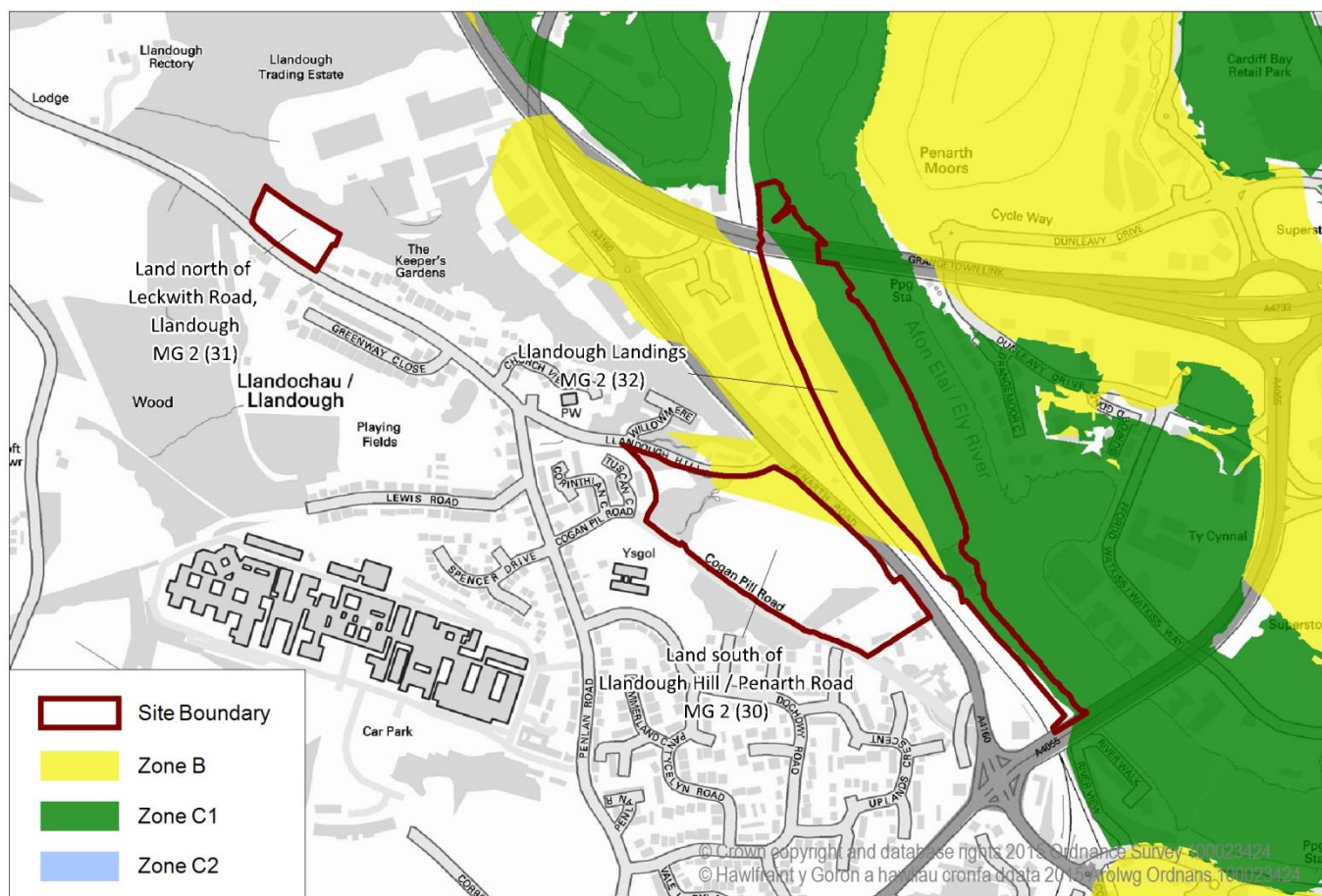
Development Advice Maps - Flood Zones - January 2015



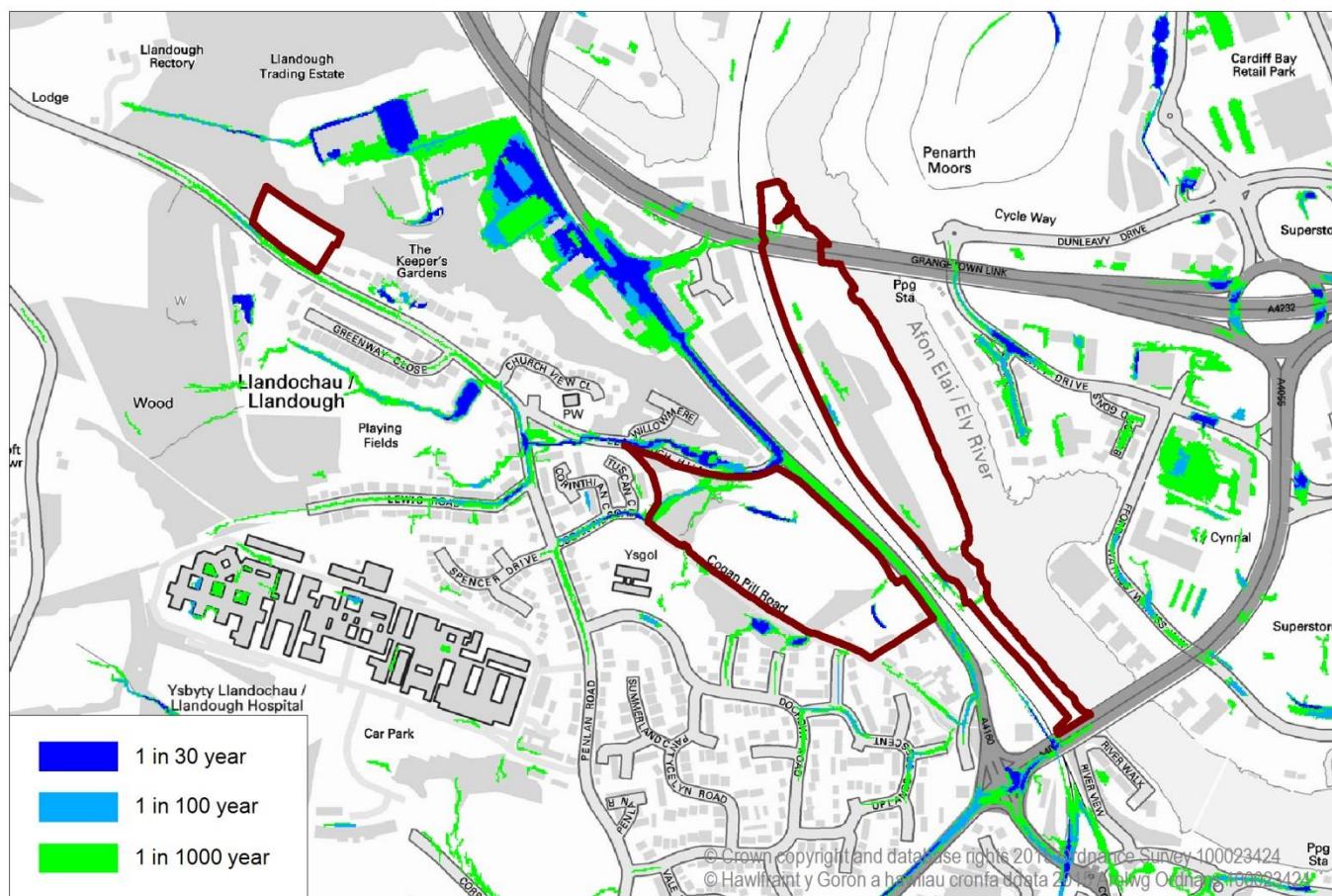
Flood Map for Surface Water - updated November 2013



Development Advice Maps - Flood Zones - January 2015



Flood Map for Surface Water - updated November 2013



Y Rhws/Rhoose

LC

Quarry

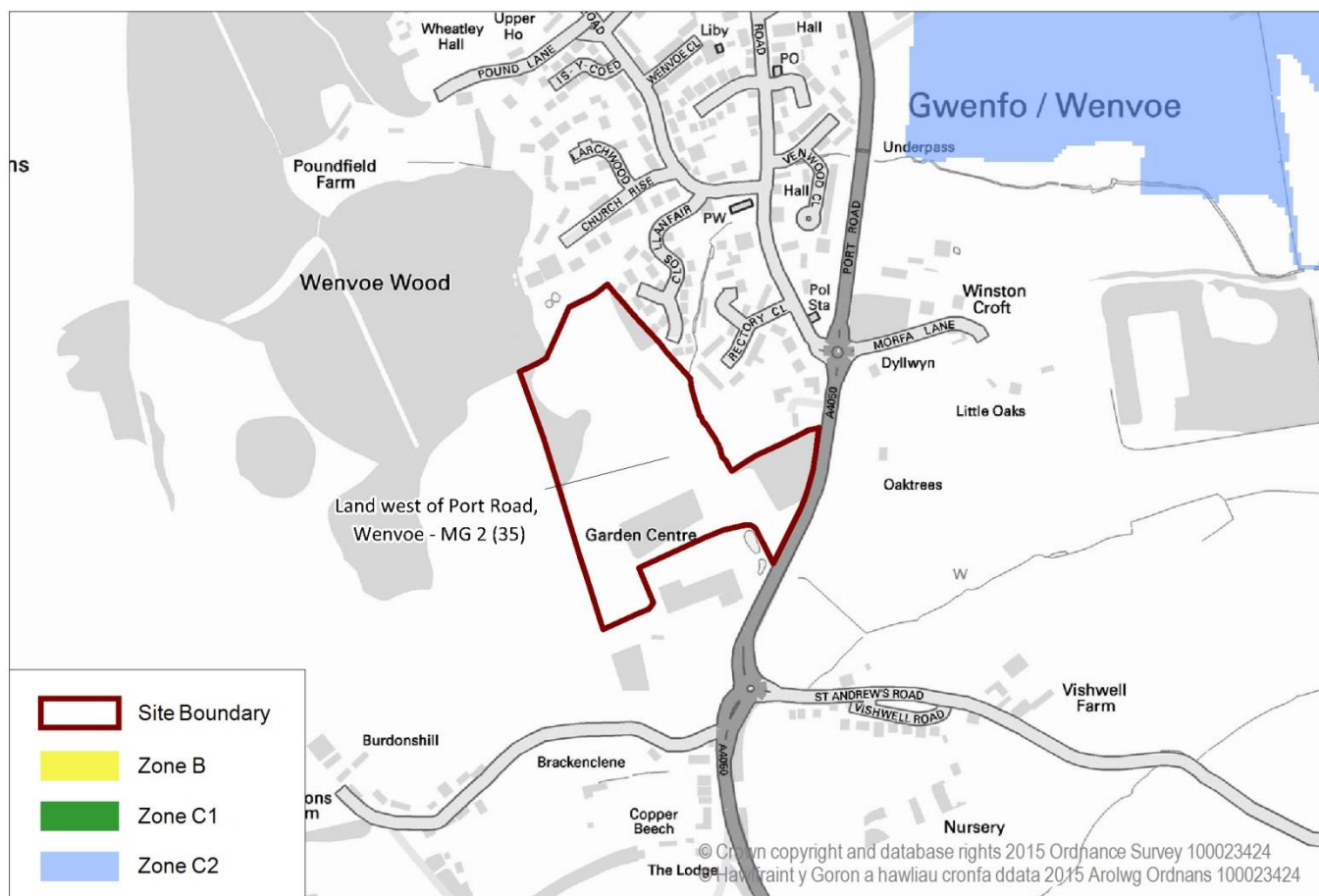
1 in 30 year

1 in 100 year

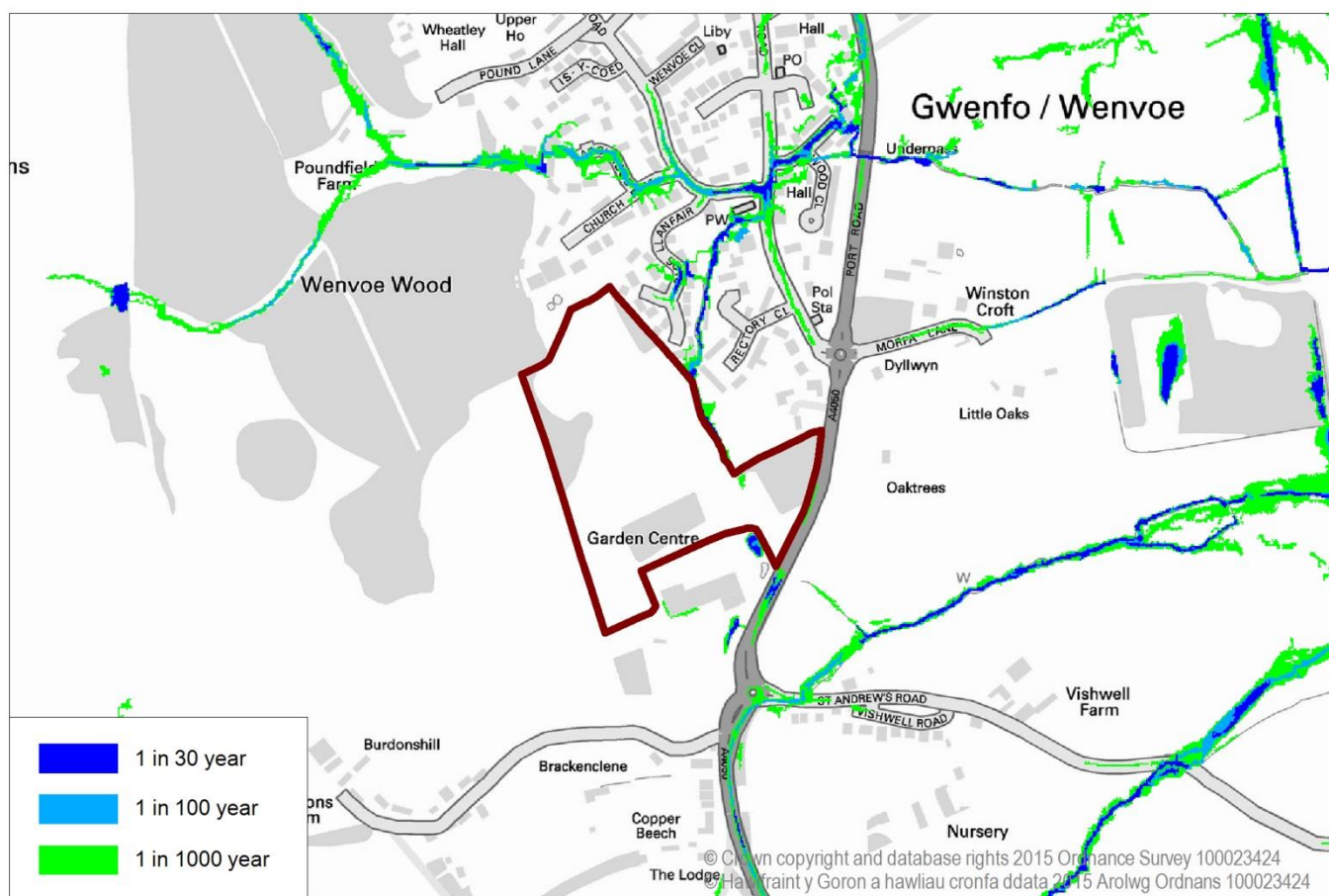
1 in 1000 year

© Crown copyright and database rights 2015 Ordnance Survey 100023424
© Hawiiraifny Goron a hawliau cronfa ddata 2015 Arolwg Ordans 100023424

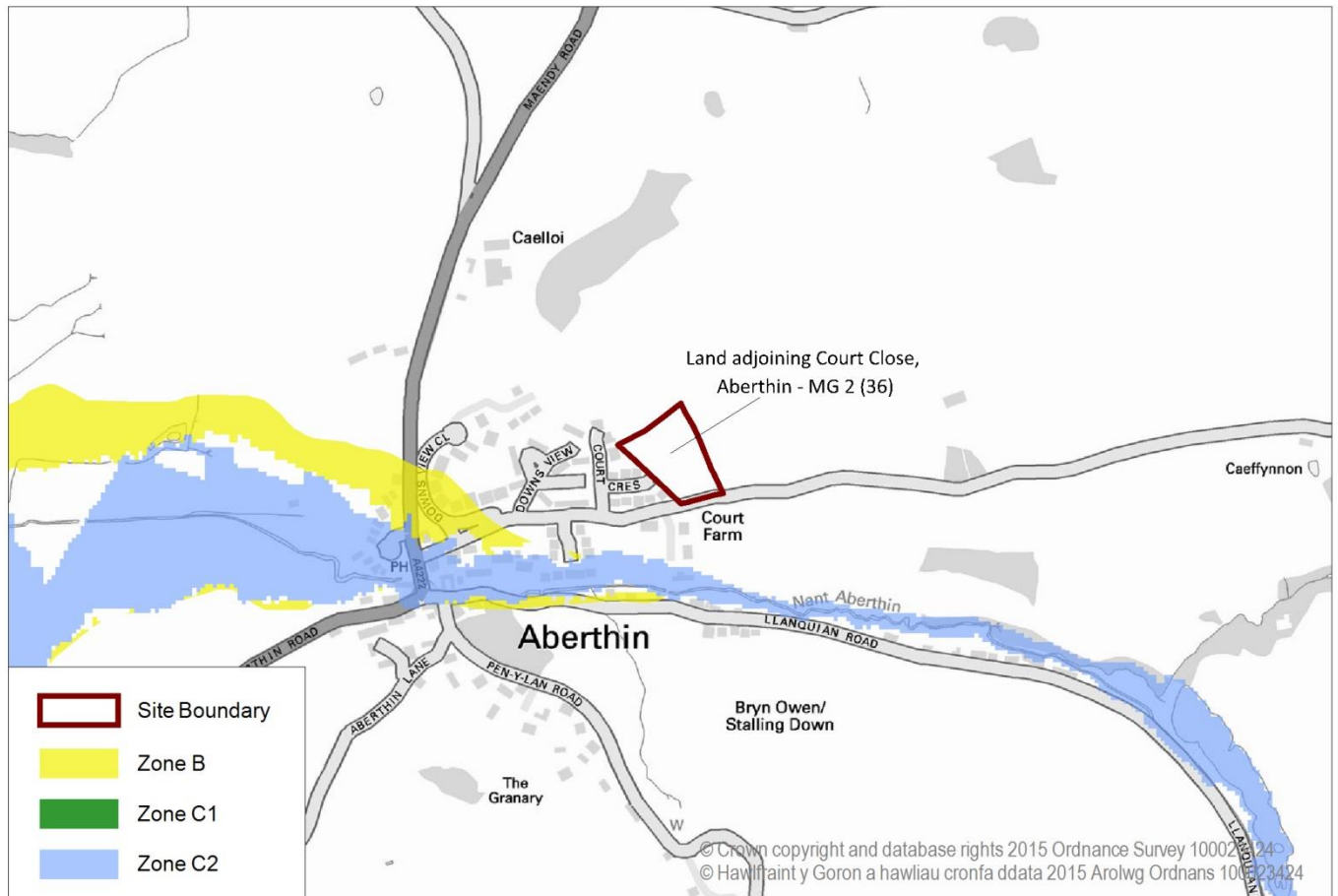
Development Advice Maps - Flood Zones - January 2015



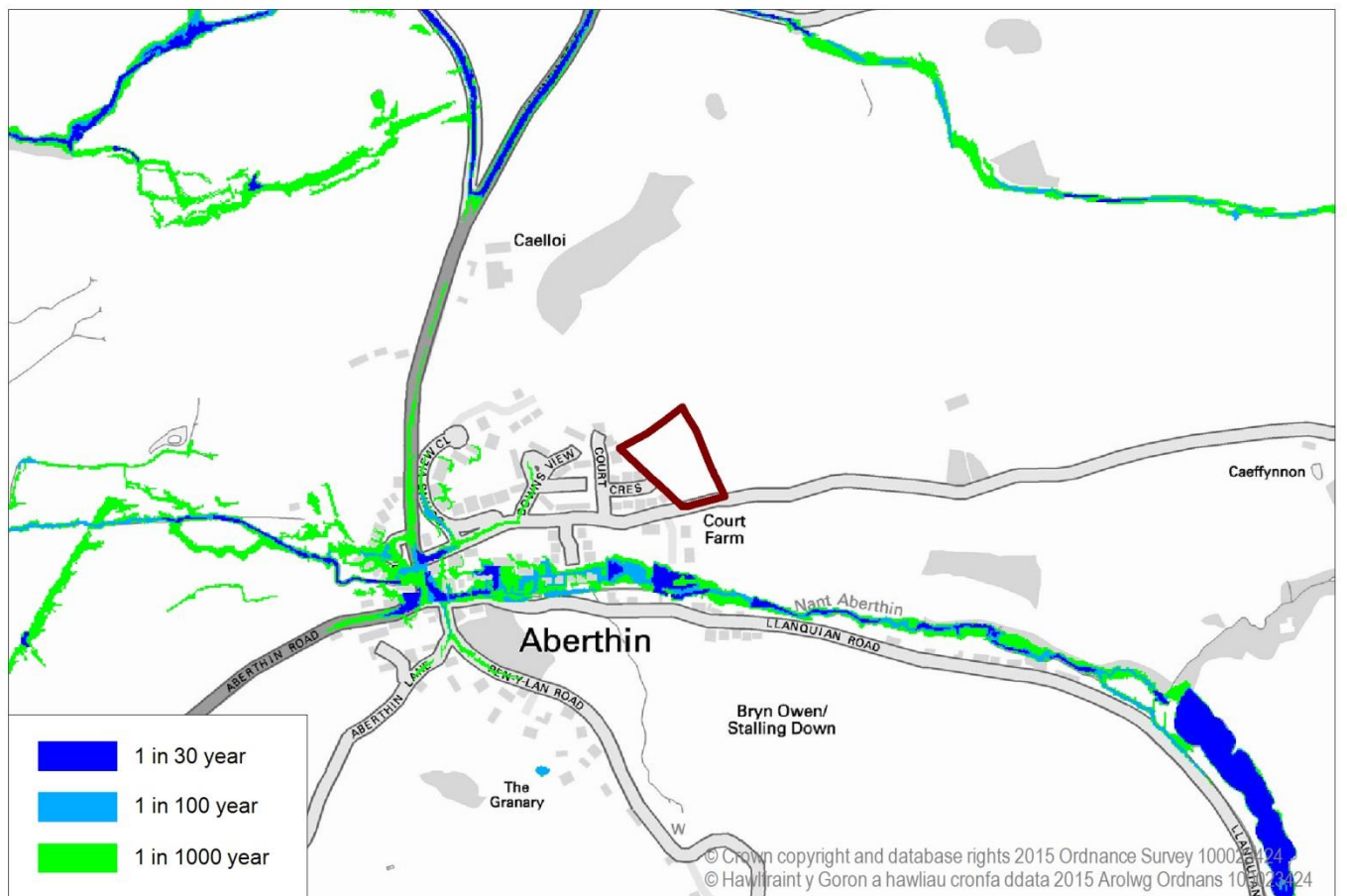
Flood Map for Surface Water - updated November 2013



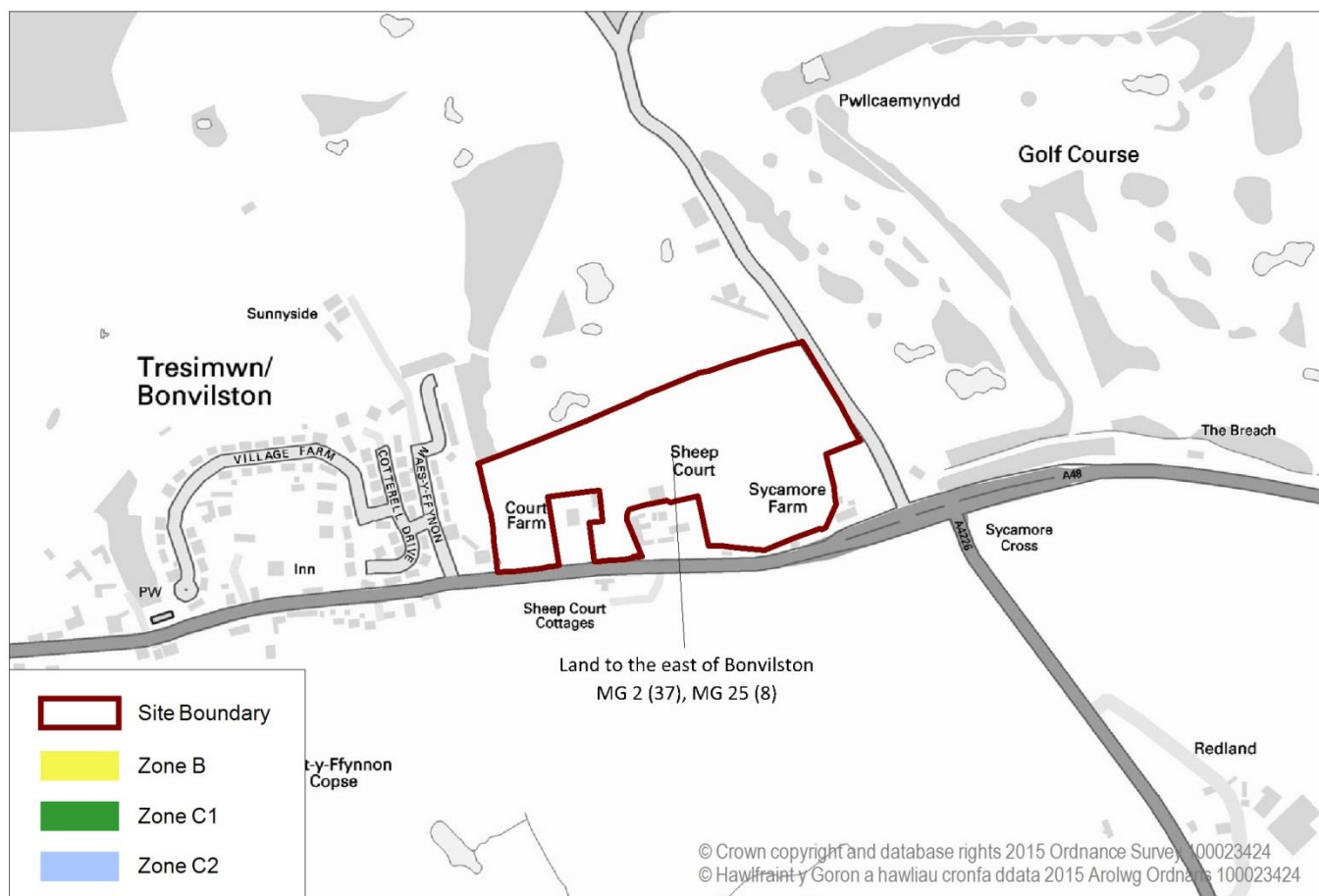
Development Advice Maps - Flood Zones - January 2015



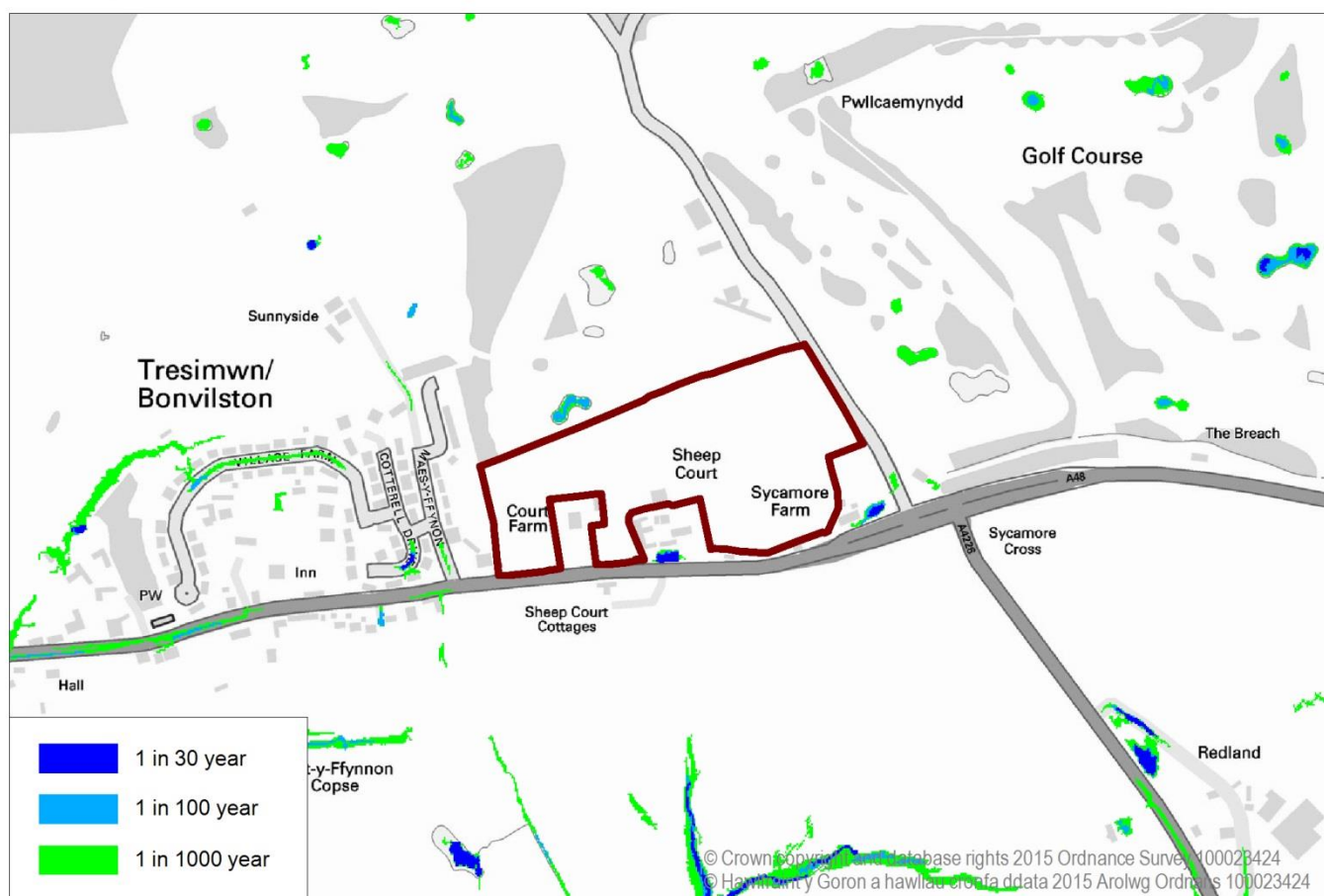
Flood Map for Surface Water - updated November 2013



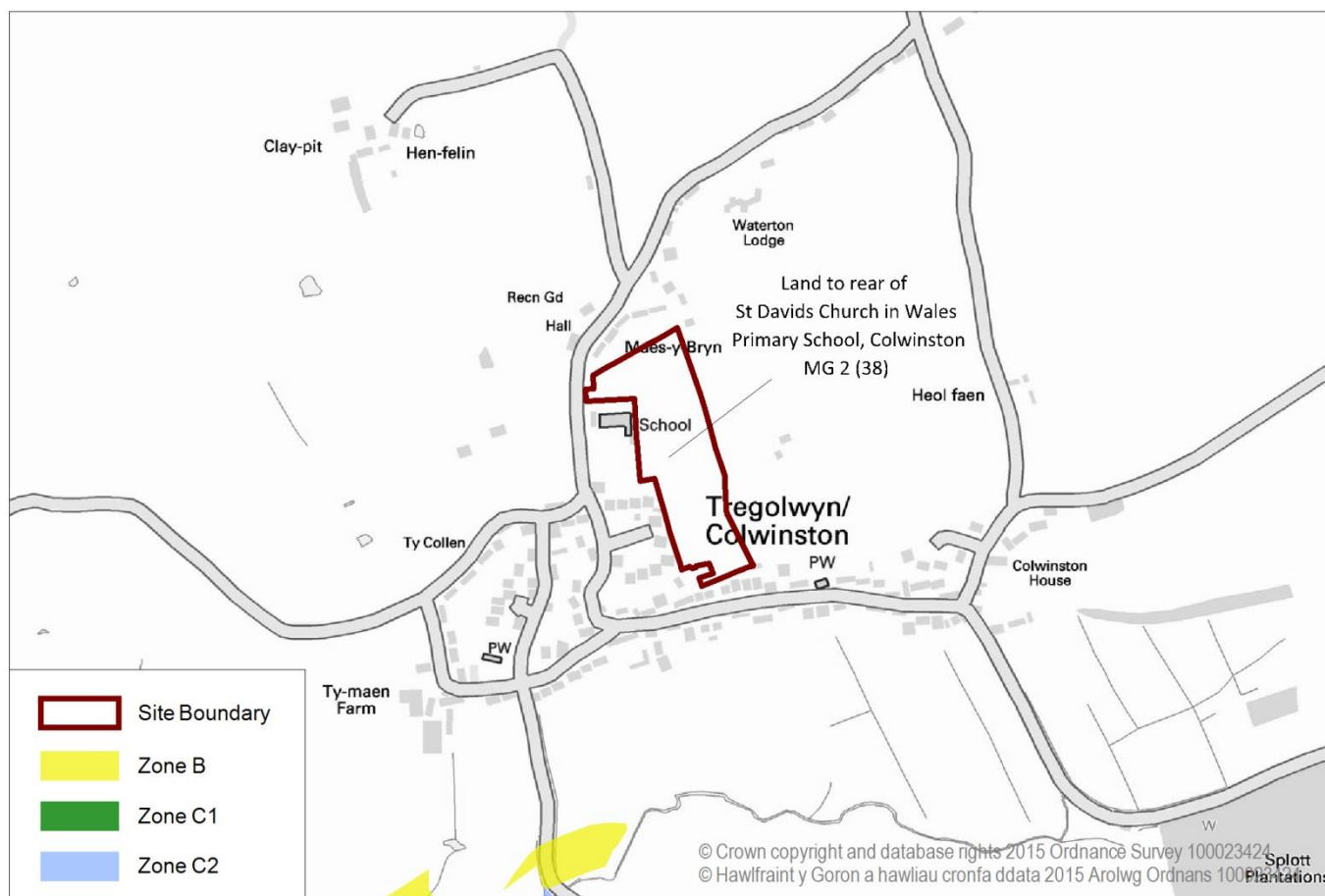
Development Advice Maps - Flood Zones - January 2015



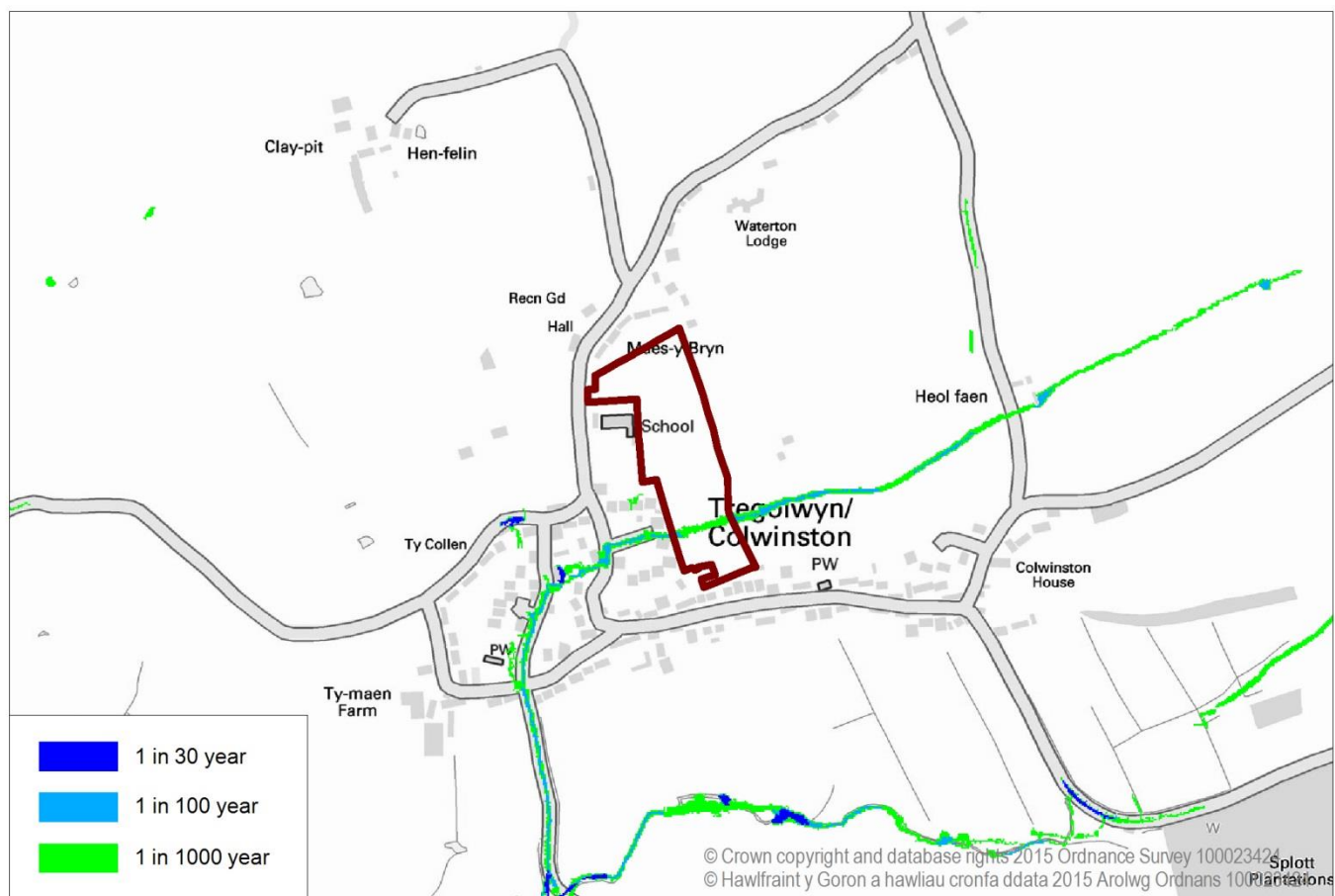
Flood Map for Surface Water - updated November 2013



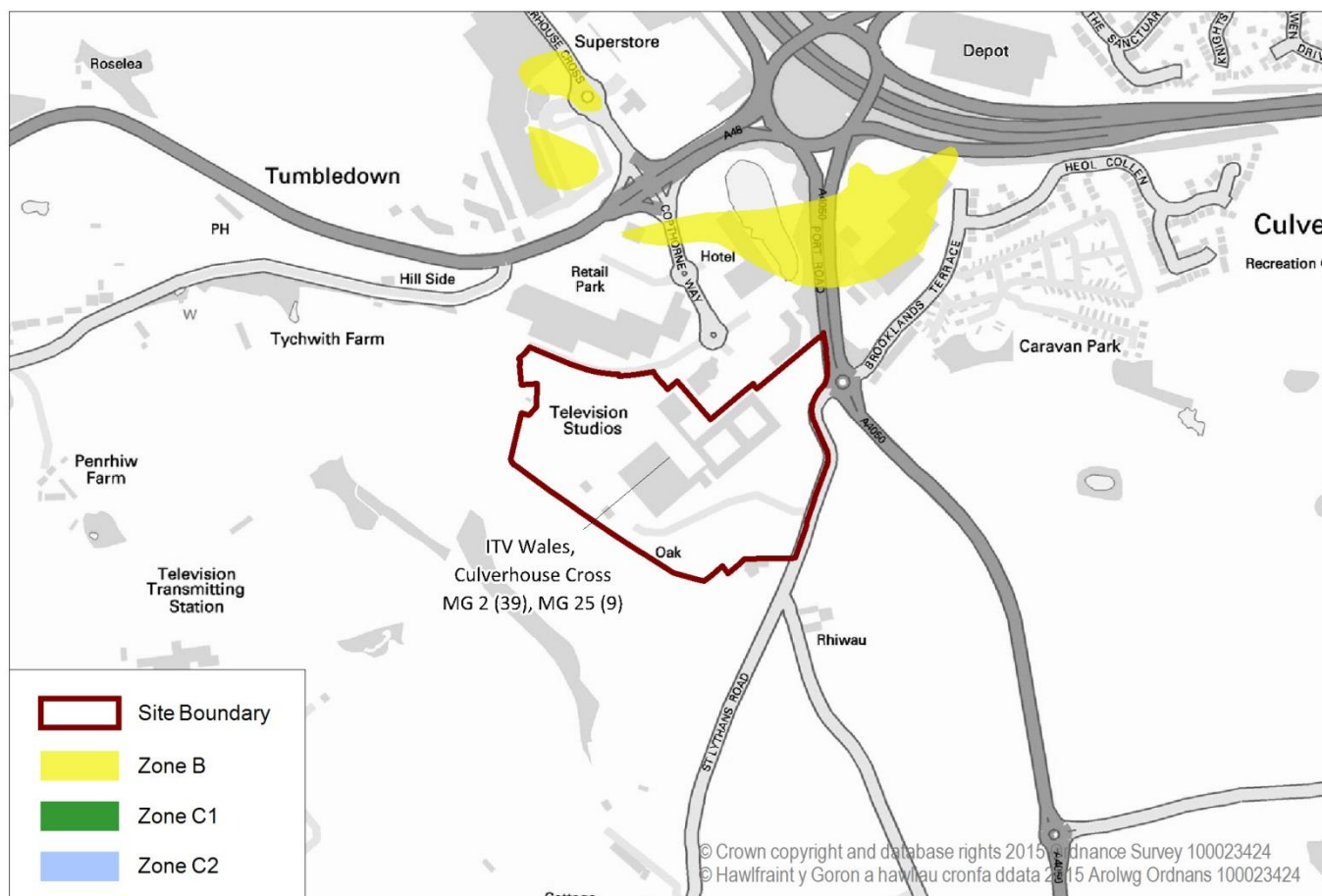
Development Advice Maps - Flood Zones - January 2015



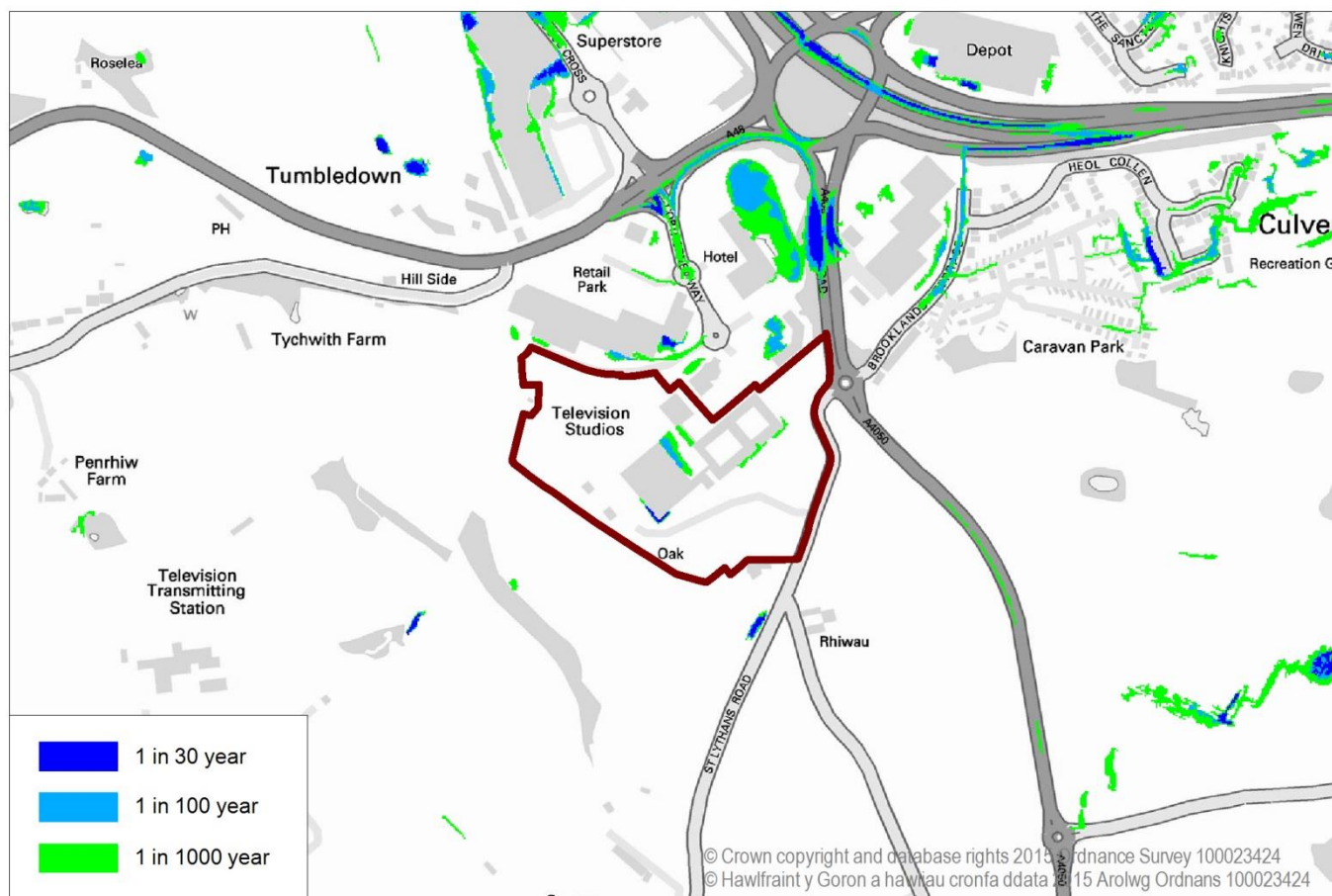
Flood Map for Surface Water - updated November 2013



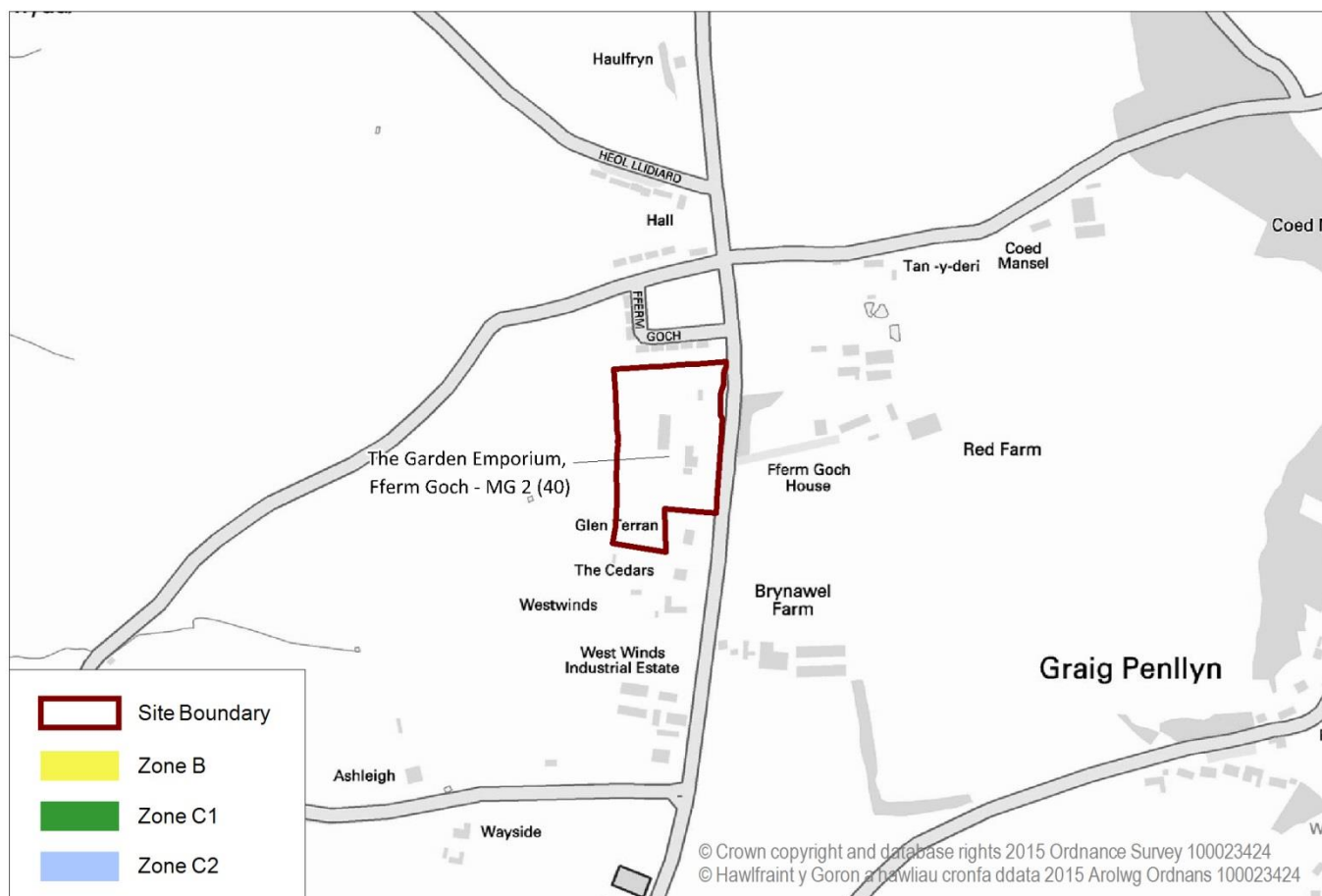
Development Advice Maps - Flood Zones - January 2015



Flood Map for Surface Water - updated November 2013



Development Advice Maps - Flood Zones - January 2015



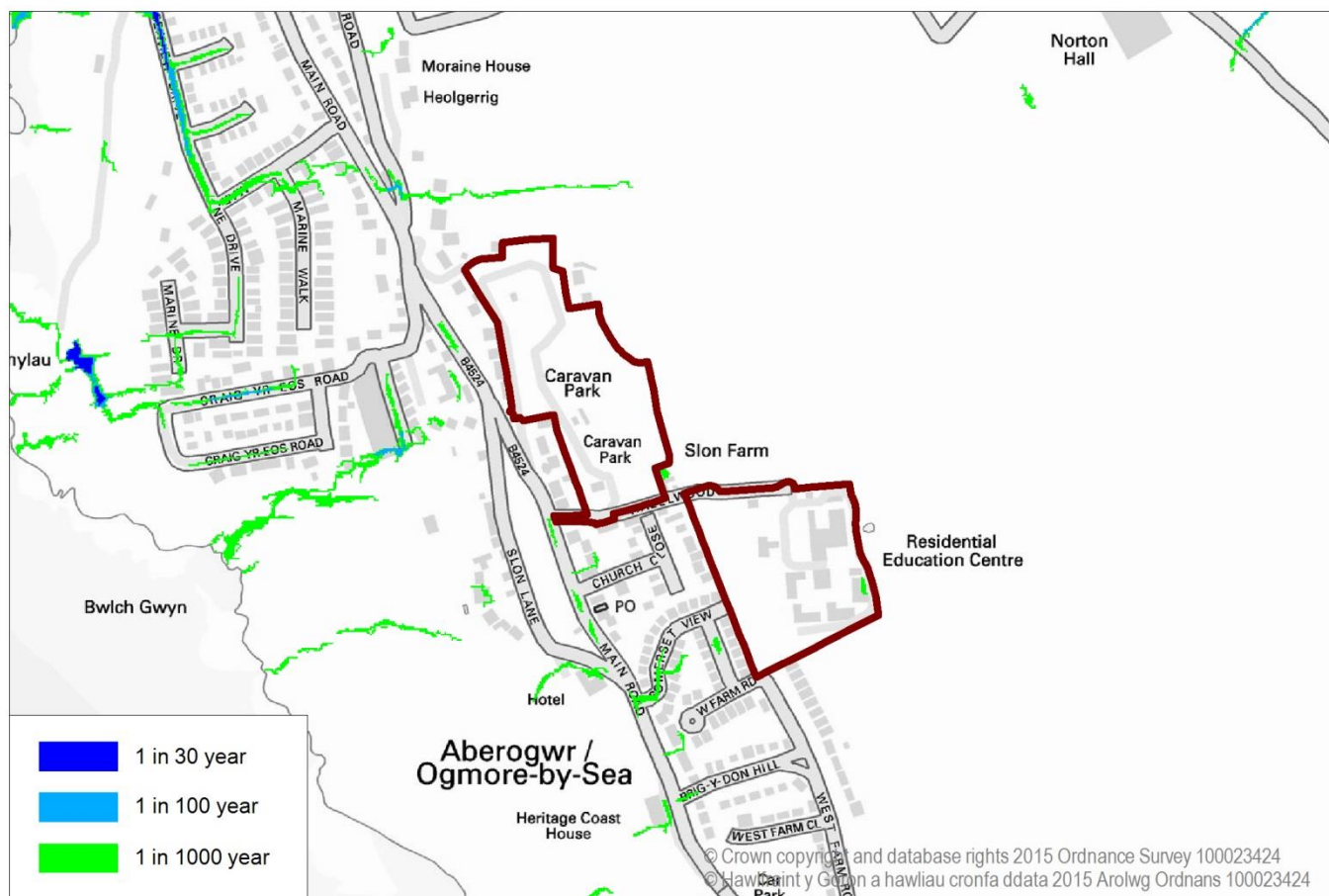
Flood Map for Surface Water - updated November 2013



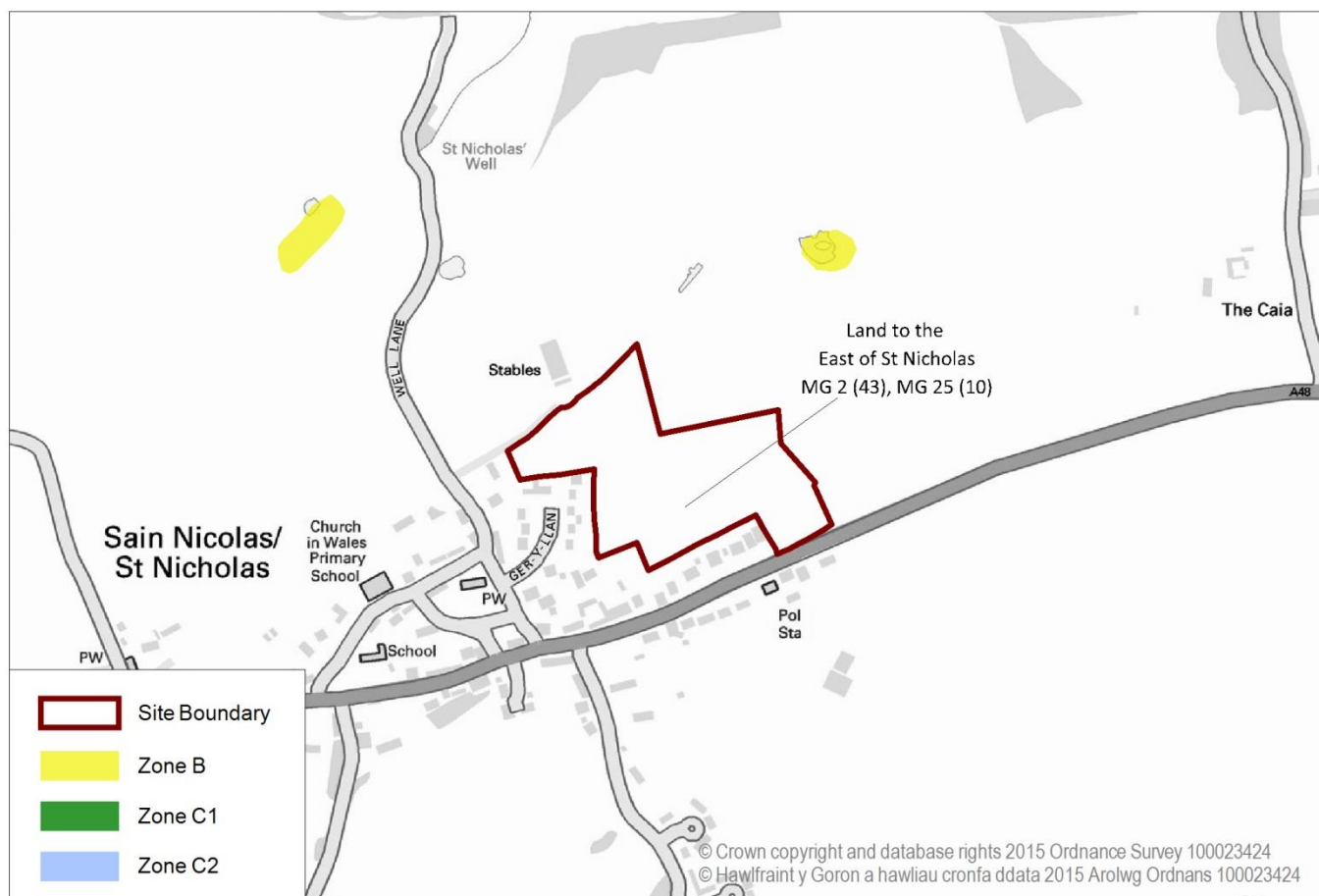
Development Advice Maps - Flood Zones - January 2015



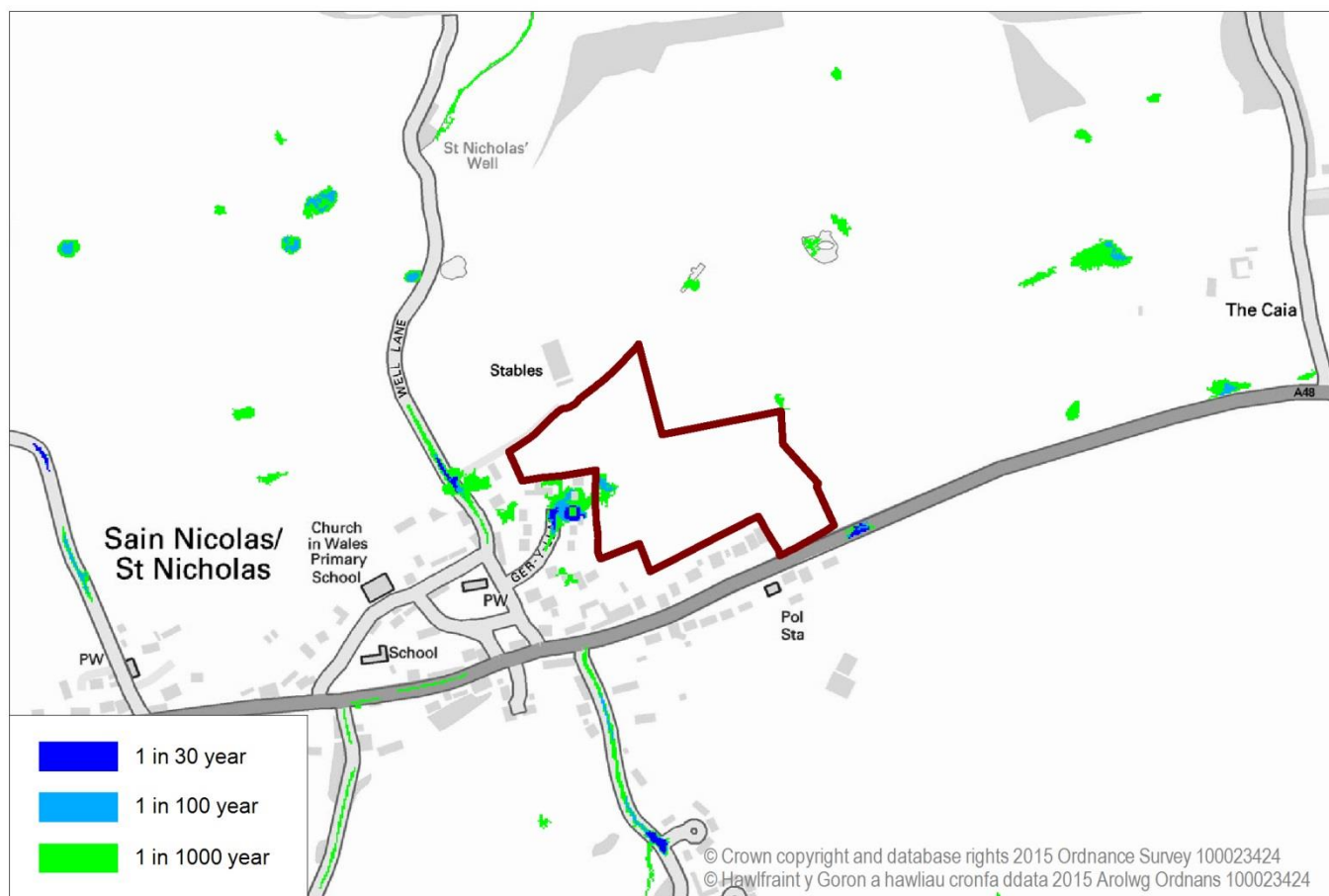
Flood Map for Surface Water - updated November 2013



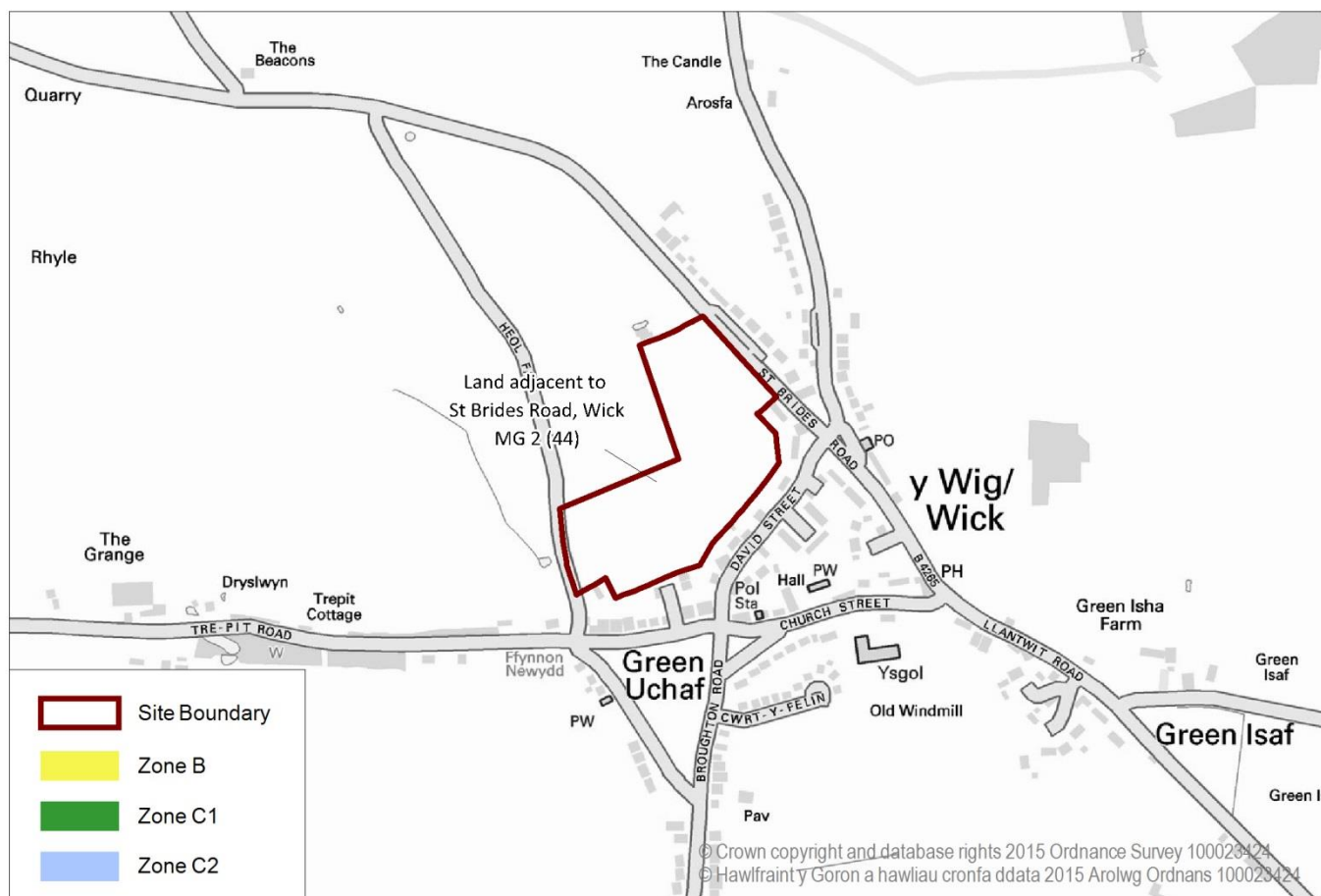
Development Advice Maps - Flood Zones - January 2015



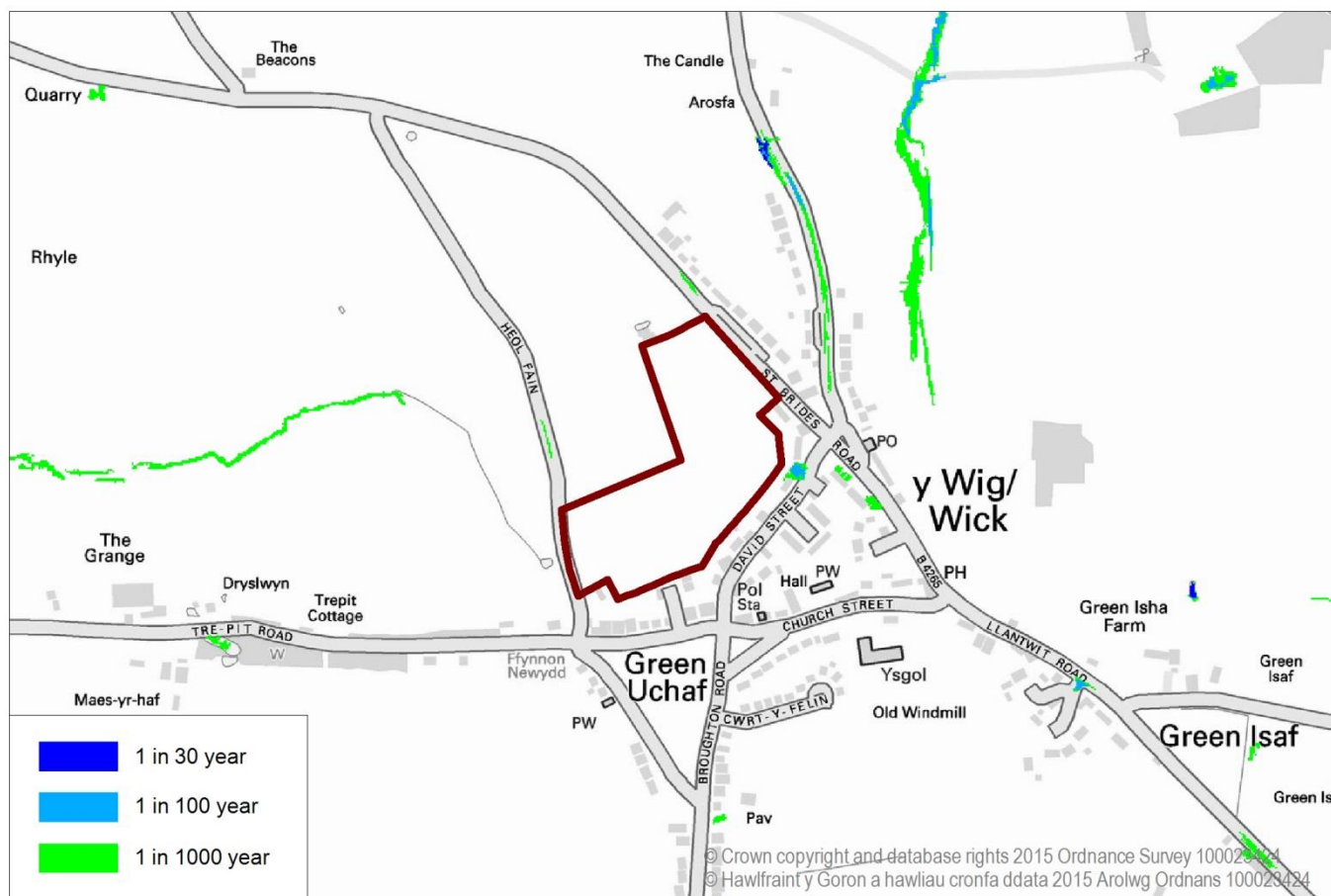
Flood Map for Surface Water - updated November 2013



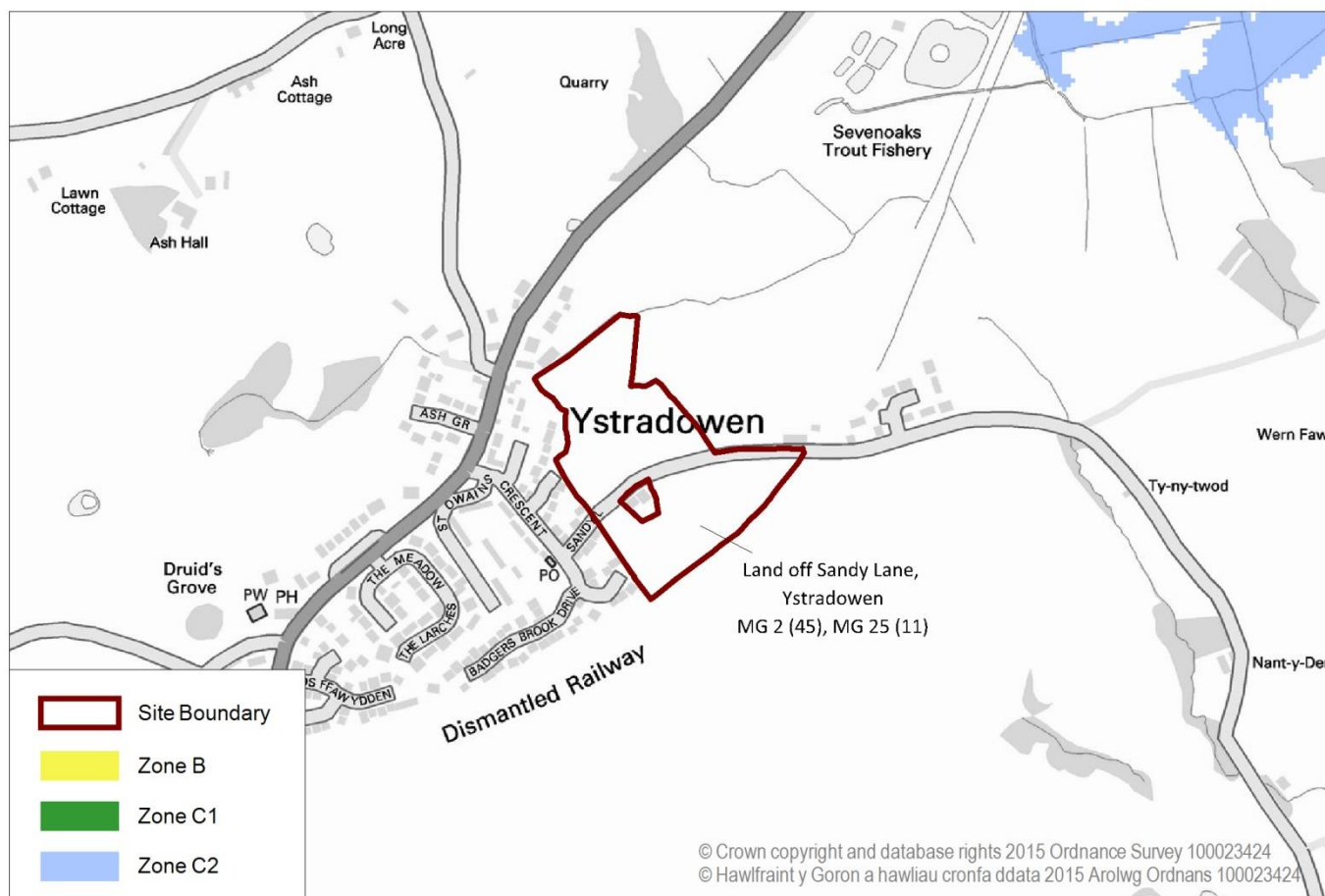
Development Advice Maps - Flood Zones - January 2015



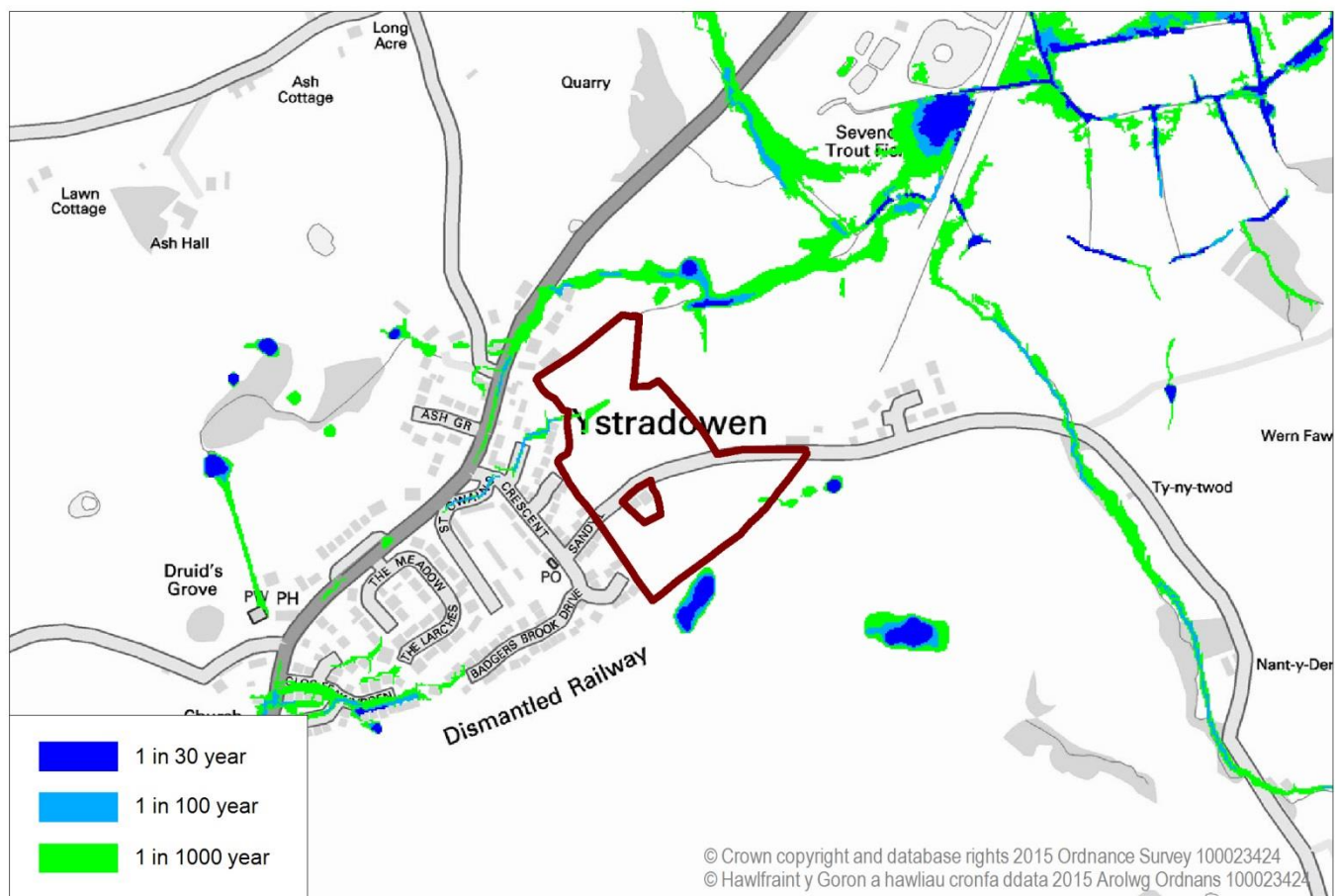
Flood Map for Surface Water - updated November 2013



Development Advice Maps - Flood Zones - January 2015



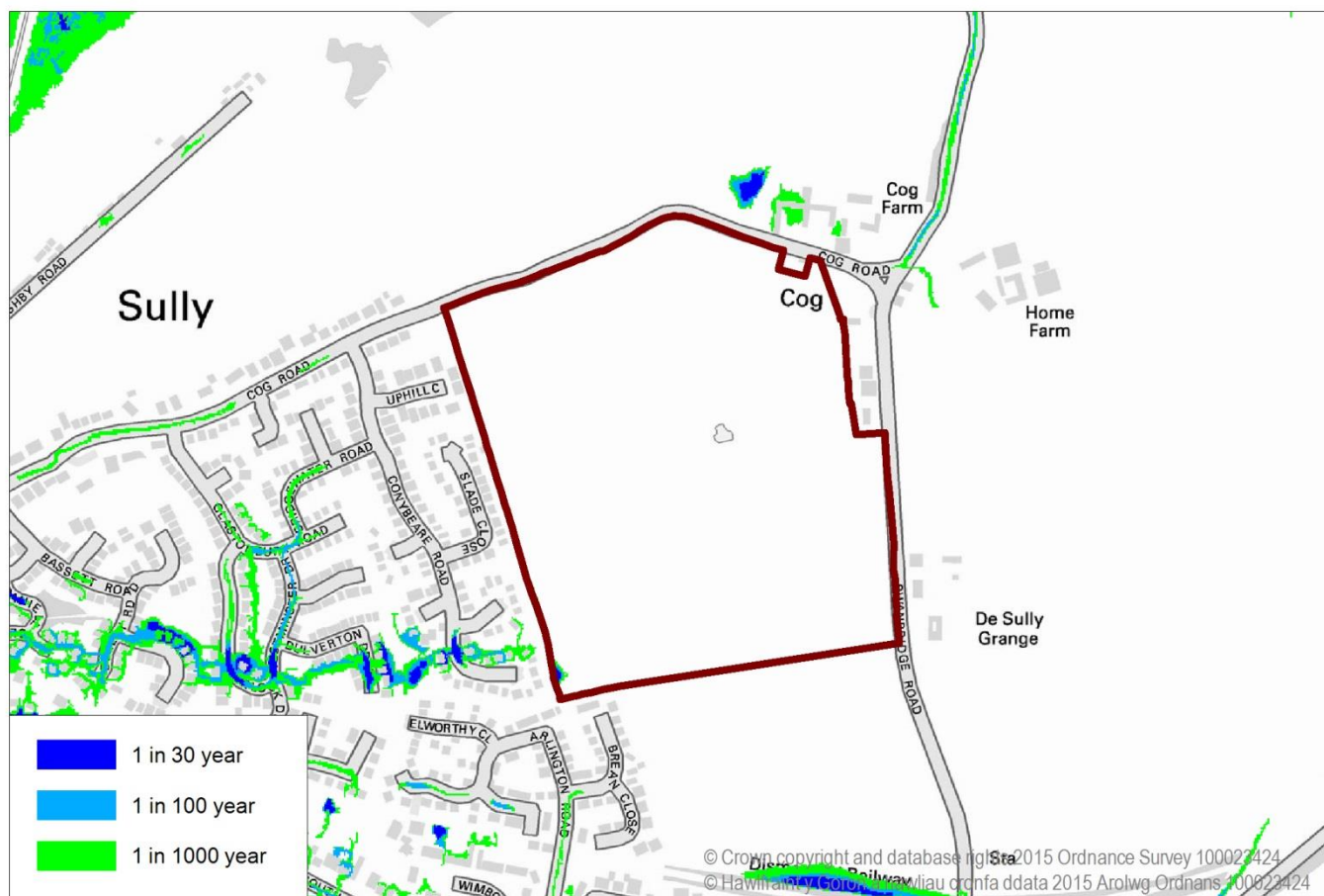
Flood Map for Surface Water - updated November 2013



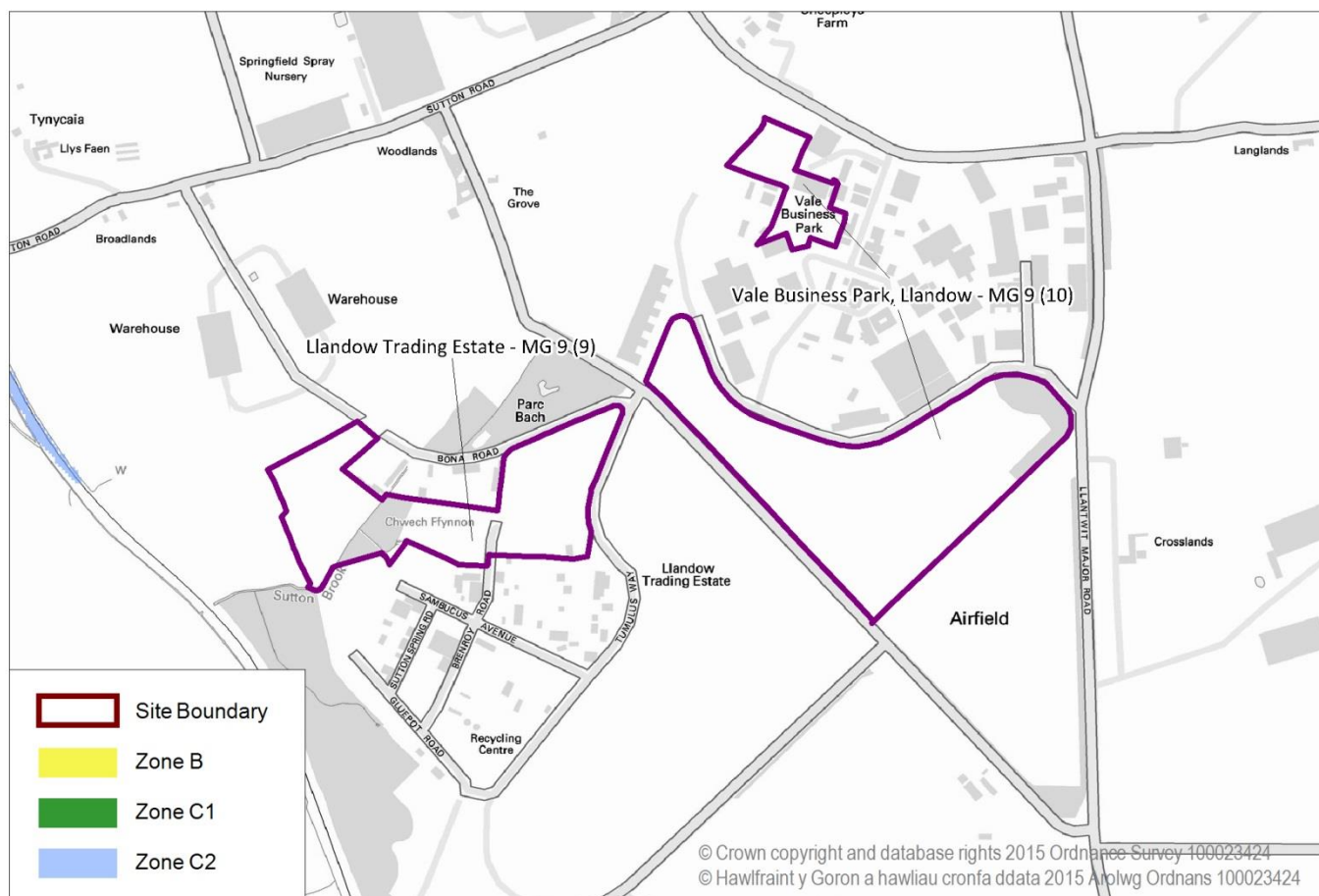
Development Advice Maps - Flood Zones - January 2015



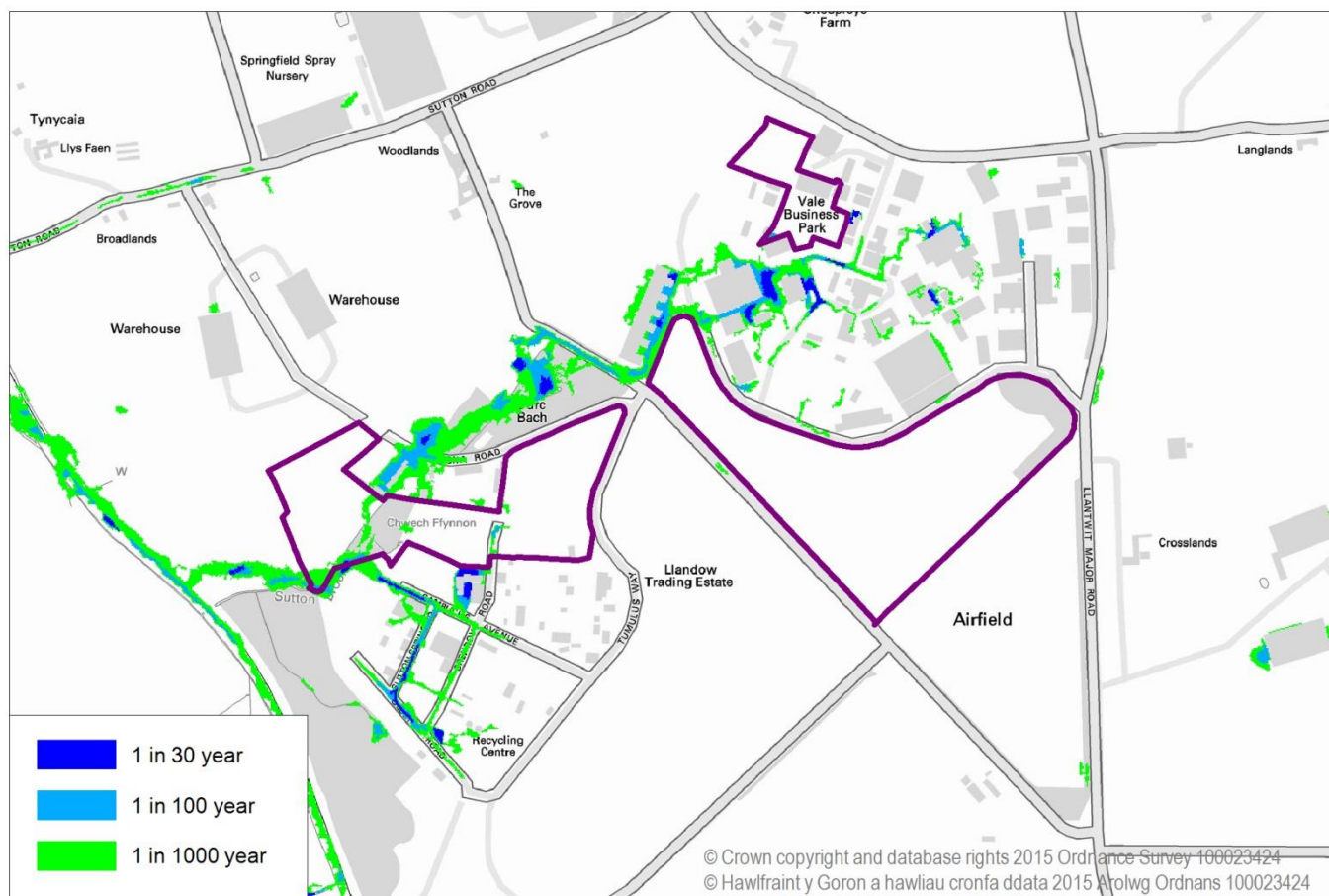
Flood Map for Surface Water - updated November 2013



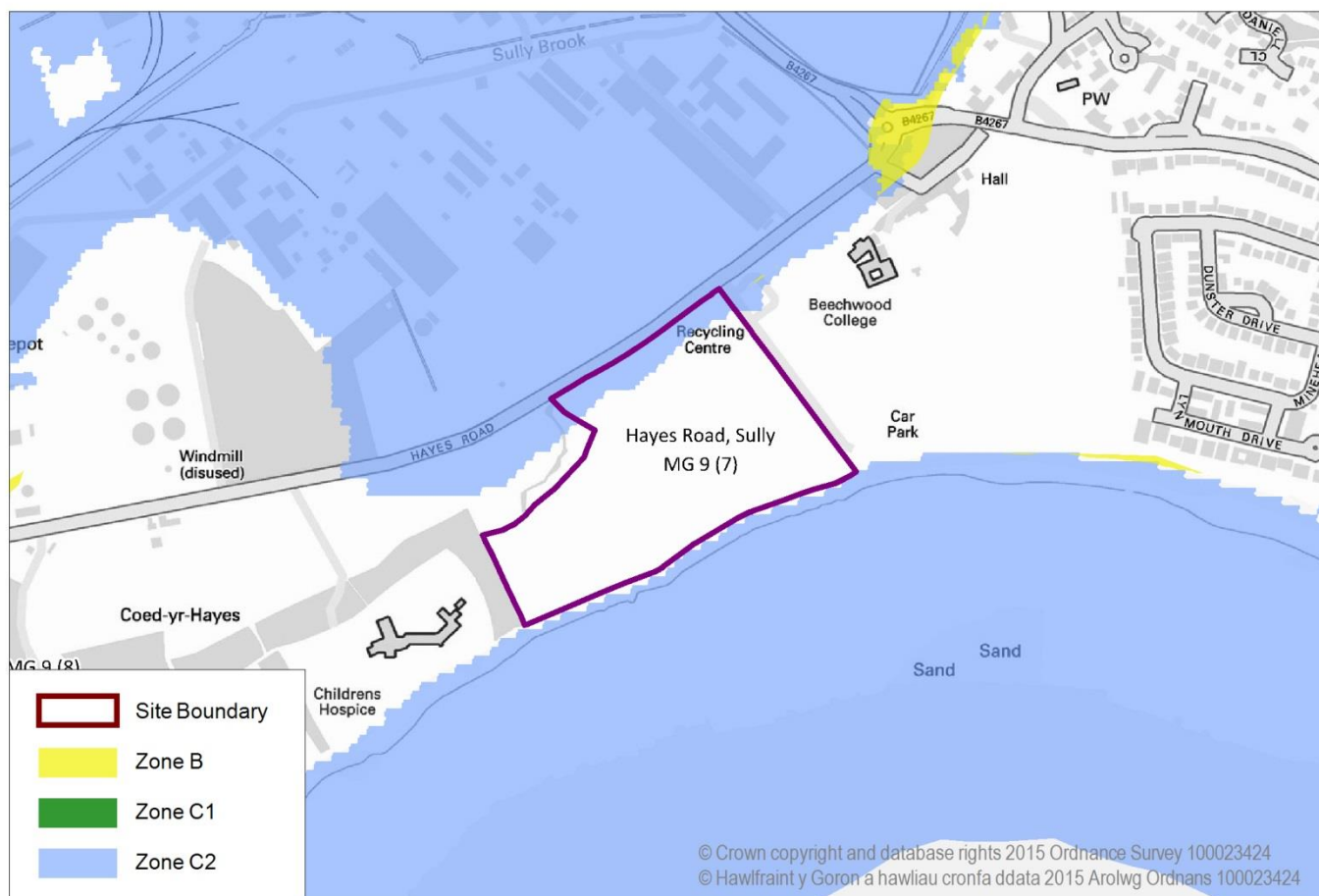
Development Advice Maps - Flood Zones - January 2015



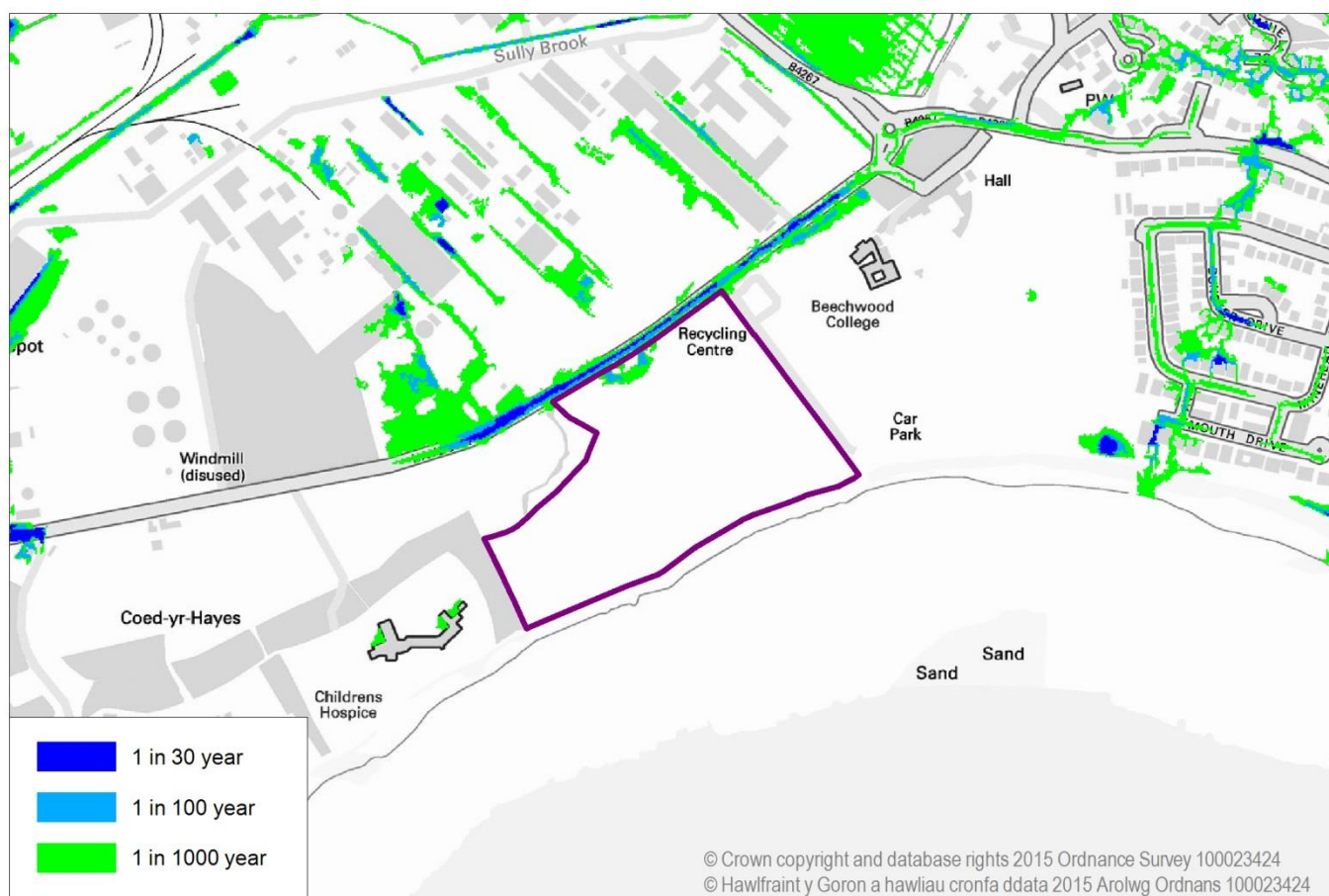
Flood Map for Surface Water - updated November 2013



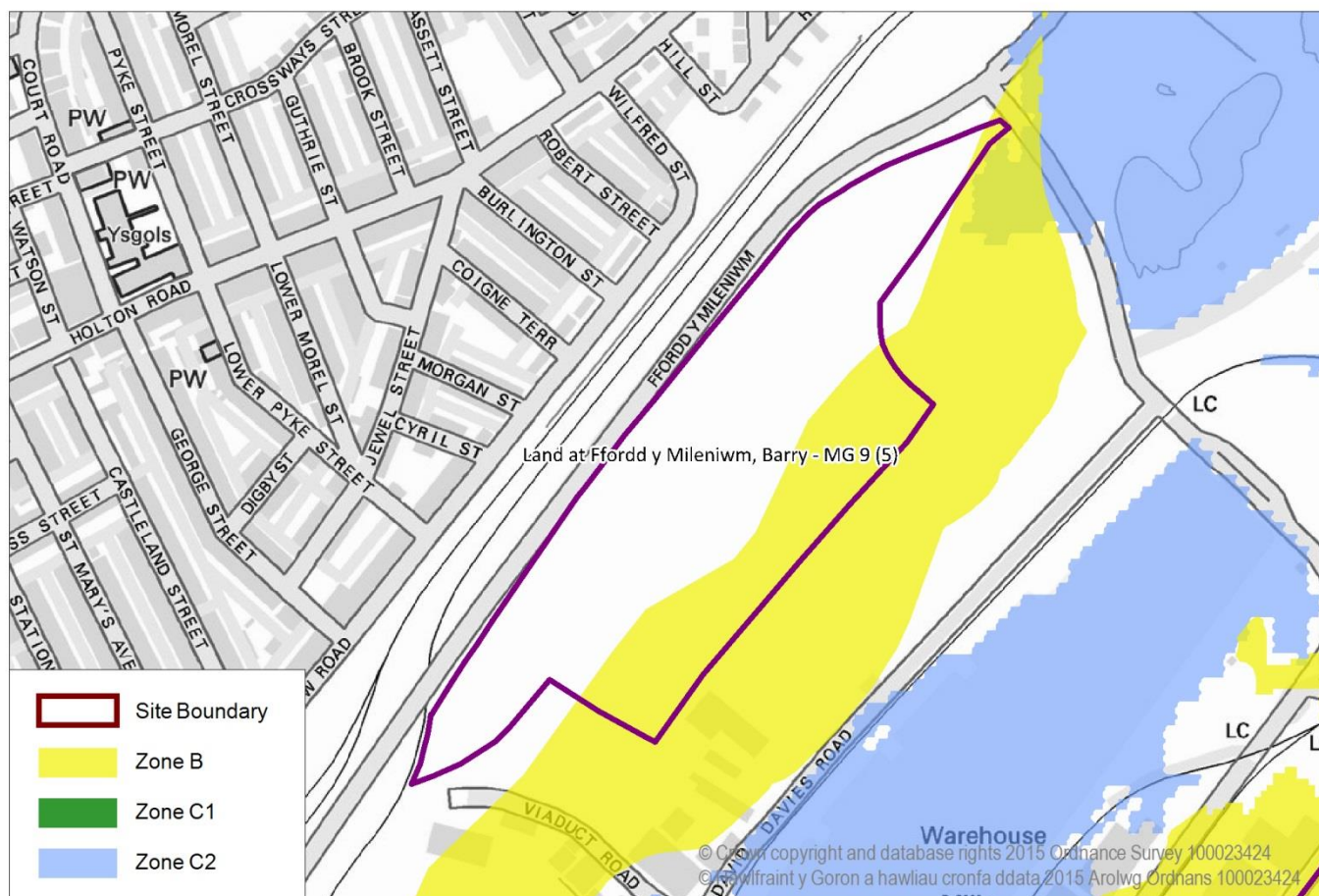
Development Advice Maps - Flood Zones - January 2015



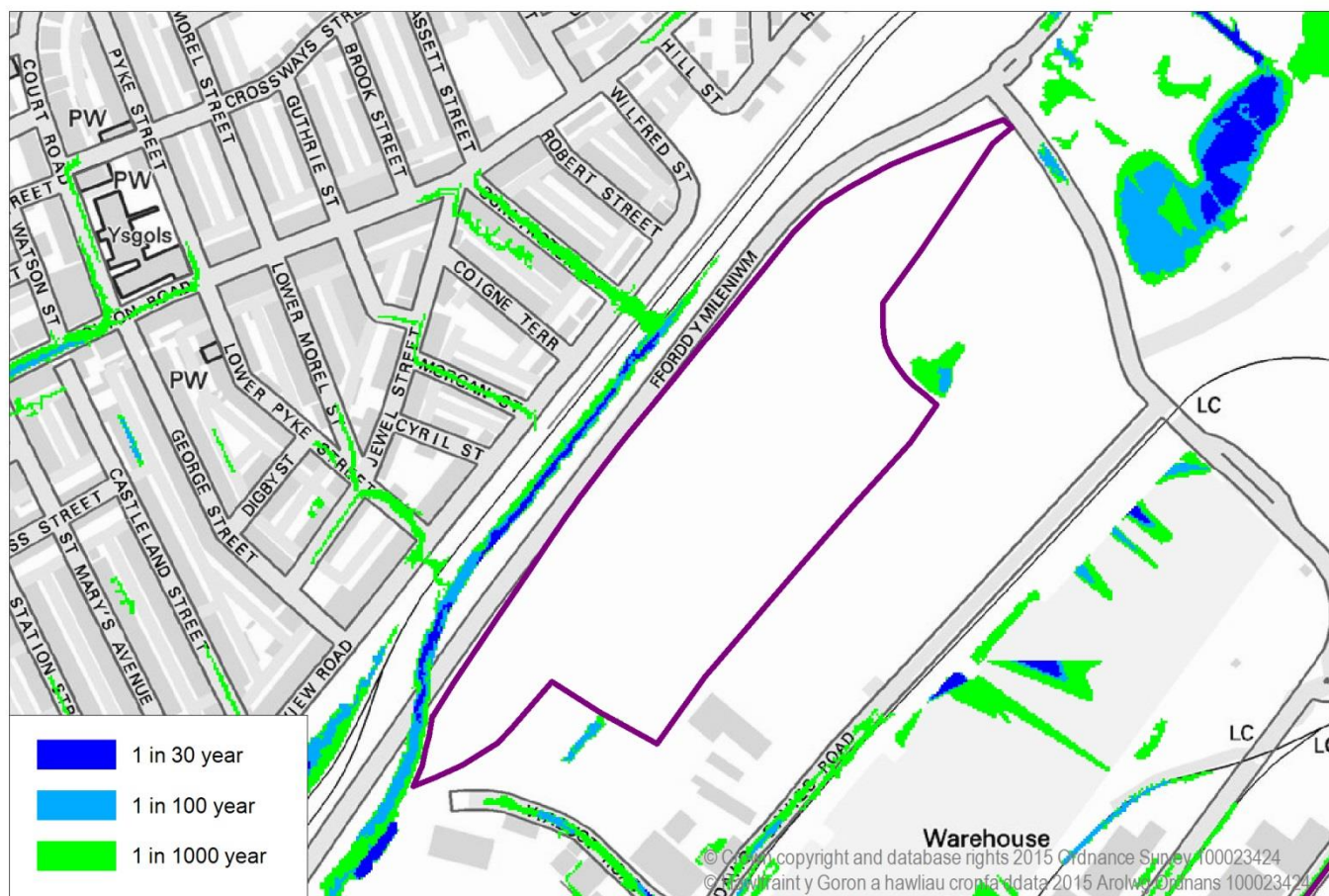
Flood Map for Surface Water - updated November 2013



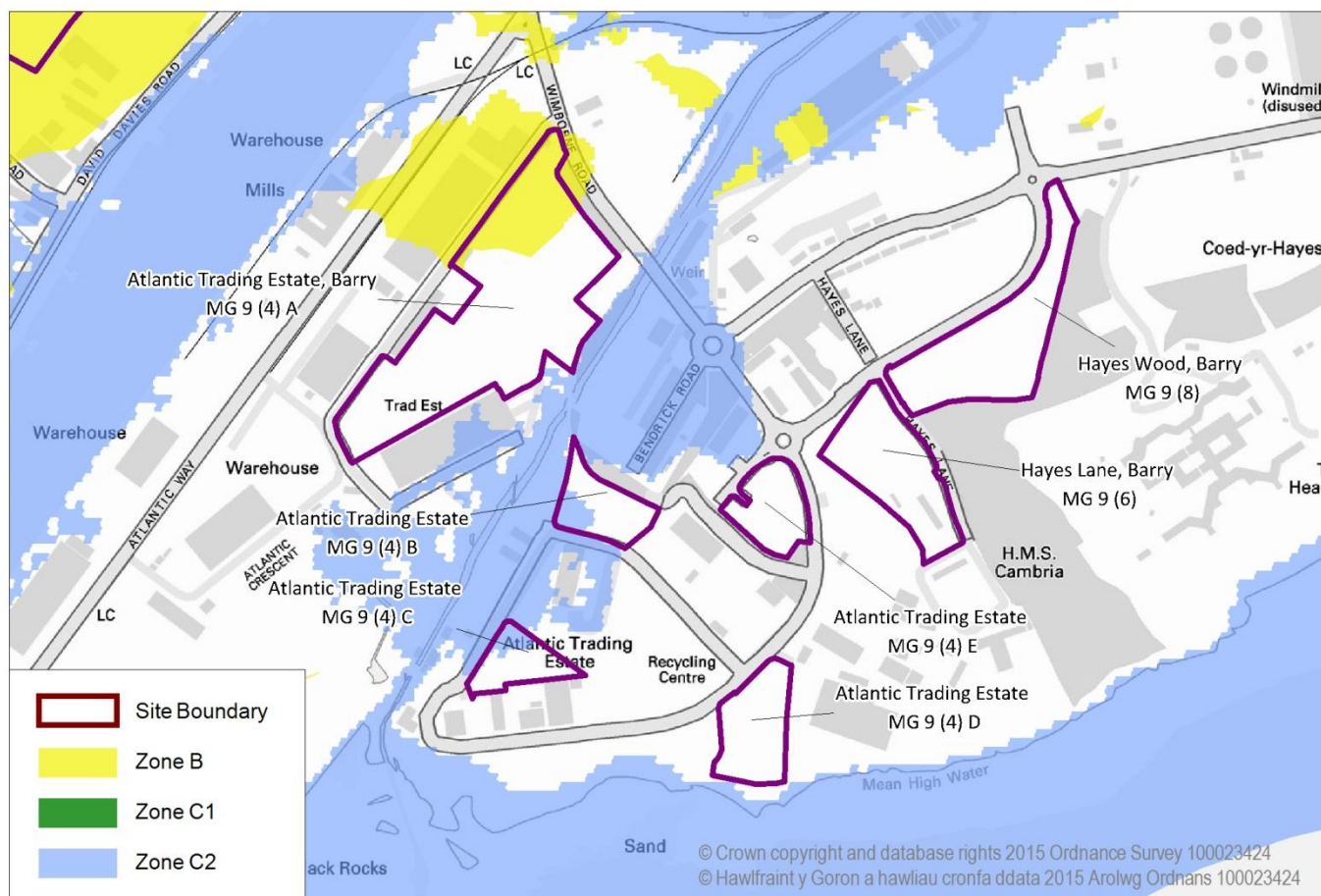
Development Advice Maps - Flood Zones - January 2015



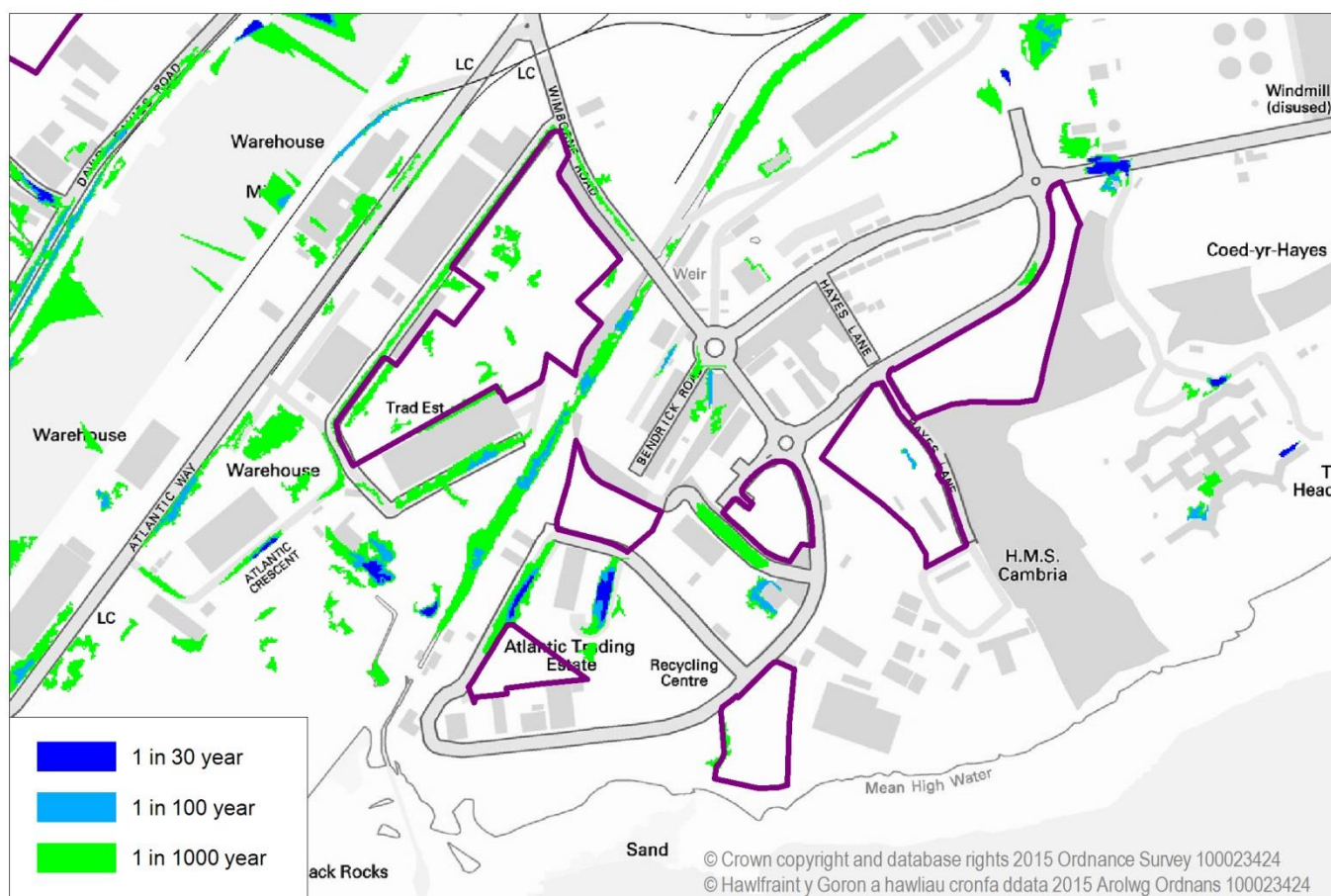
Flood Map for Surface Water - updated November 2013



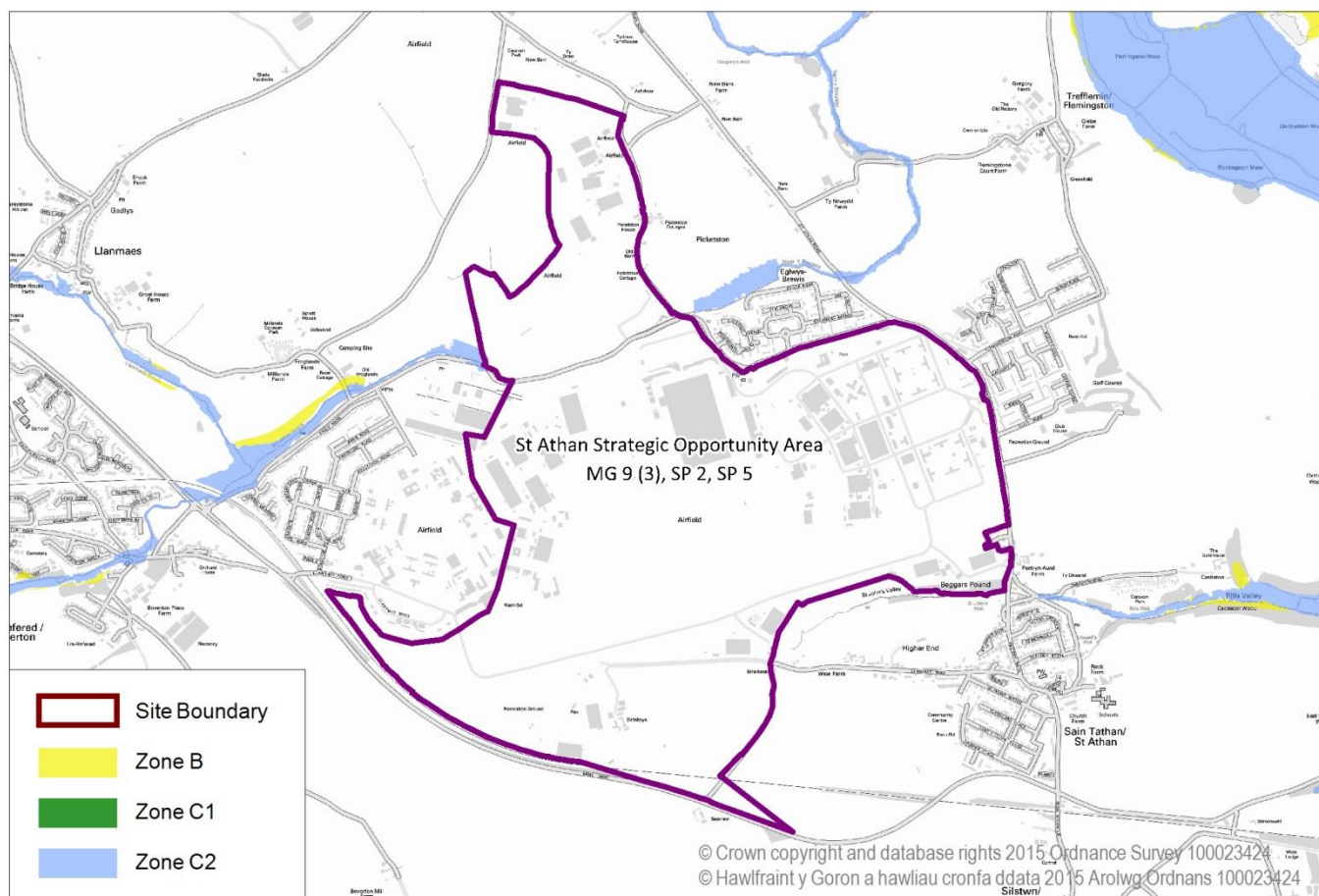
Development Advice Maps - Flood Zones - January 2015



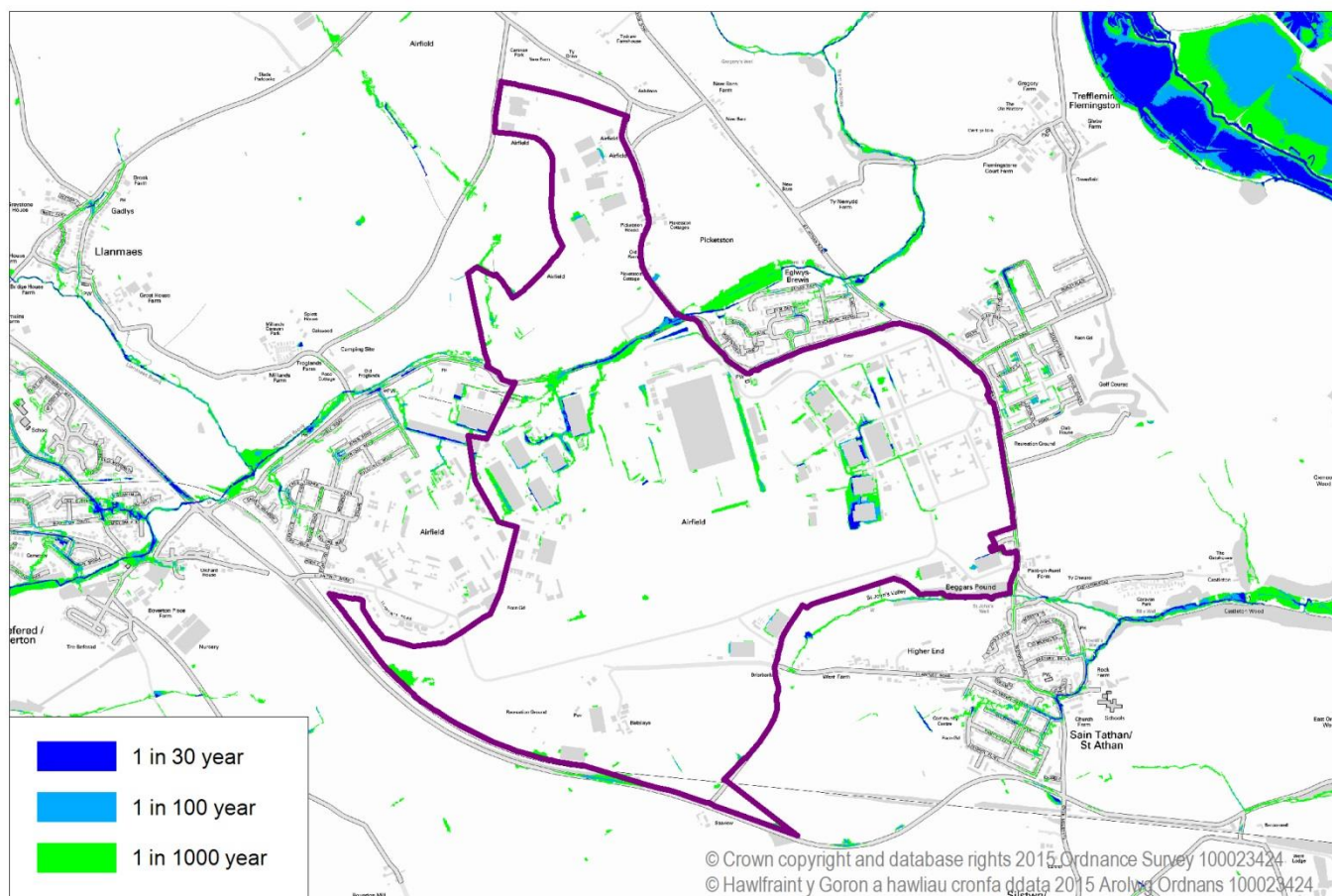
Flood Map for Surface Water - updated November 2013



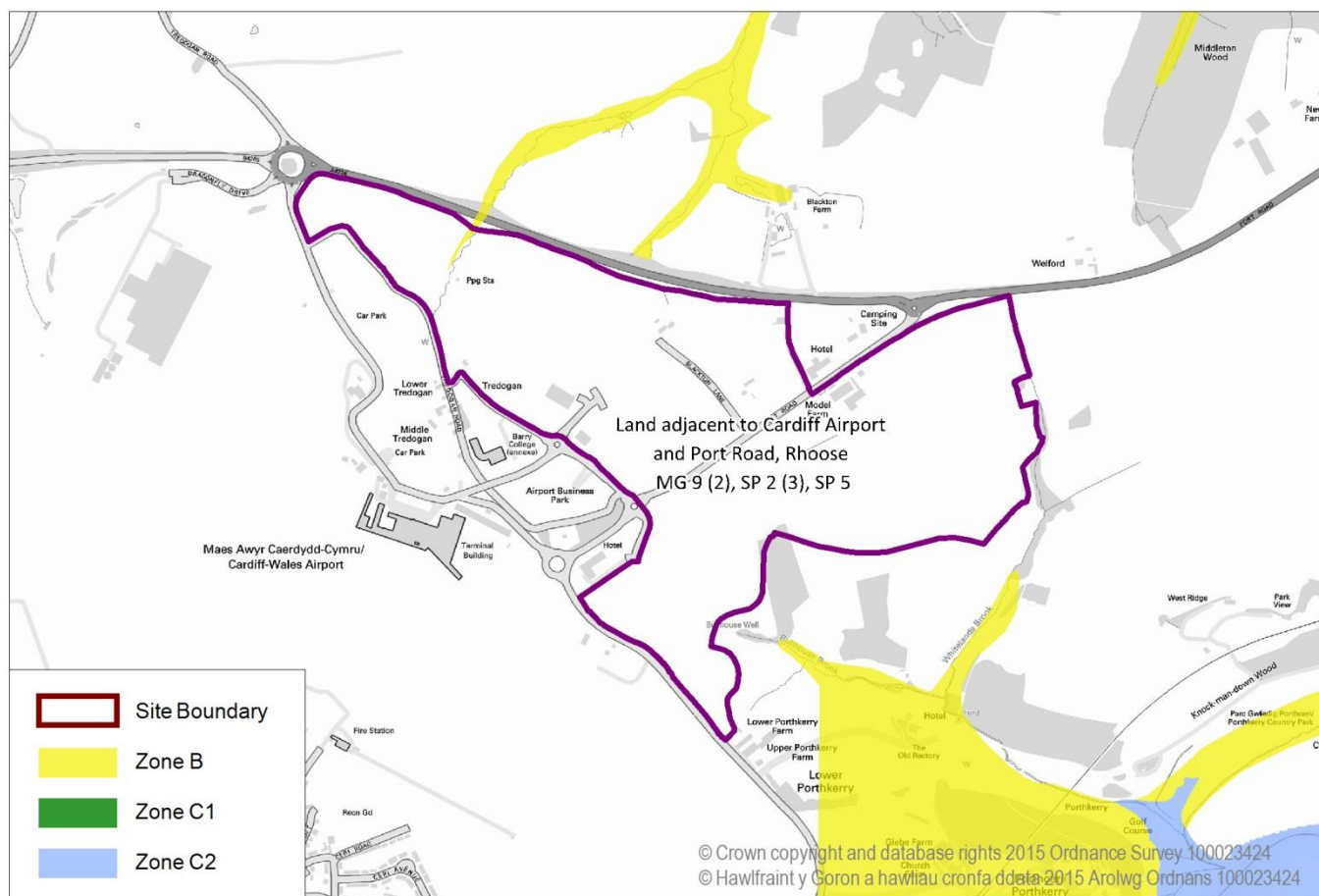
Development Advice Maps - Flood Zones - January 2015



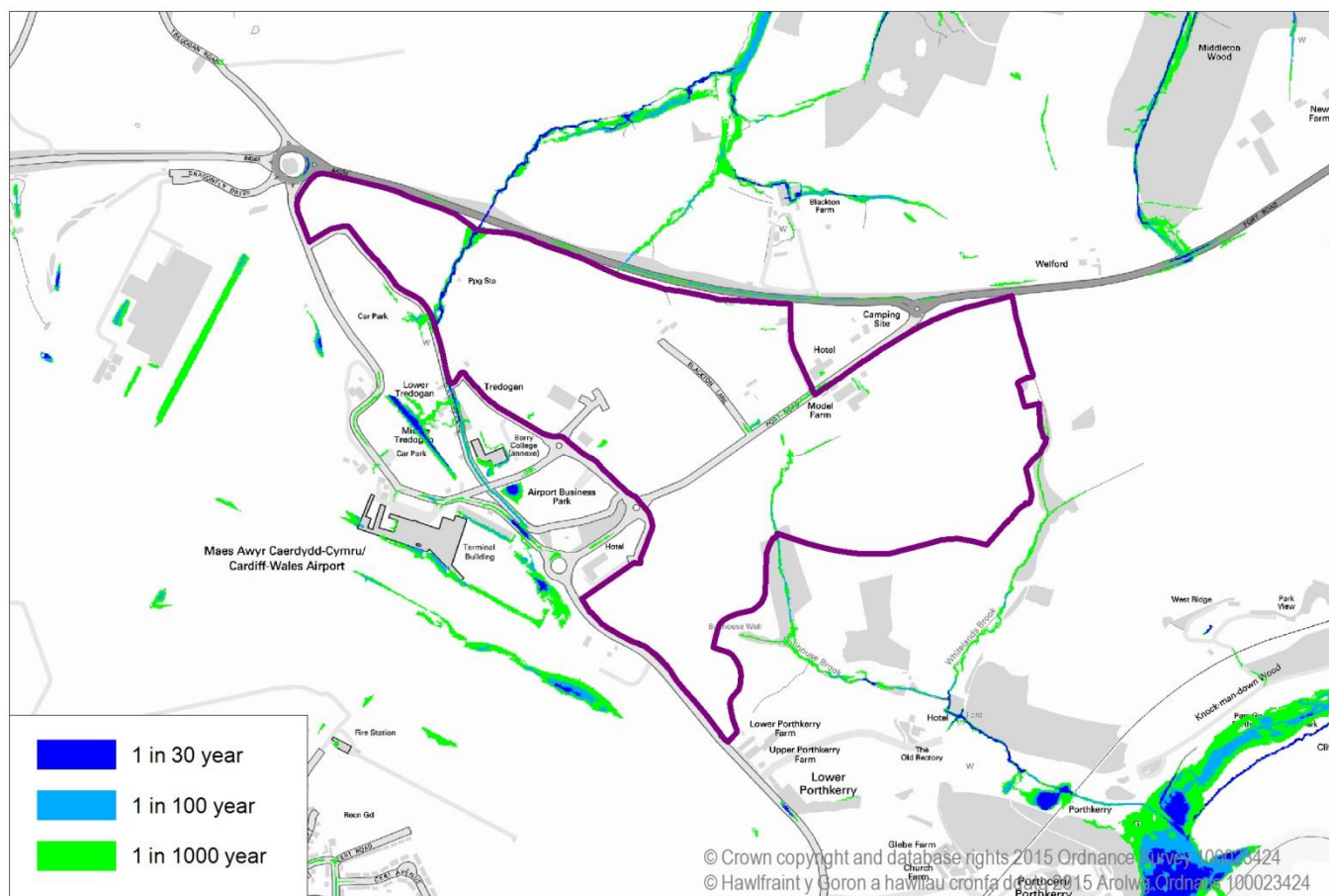
Flood Map for Surface Water - updated November 2013



Development Advice Maps - Flood Zones - January 2015



Flood Map for Surface Water - updated November 2013



Map of flood risk for the Nant-y-groes catchment area. The map shows the Nant-y-groes river and its tributaries, with flood risk areas shaded in blue (1 in 30 year), light blue (1 in 100 year), and green (1 in 1000 year). A purple boundary outlines the catchment area. Key locations include Junction 34, Llanfarach Farm, Industrial Park, Nant-y-groes, Gwyn-y-groes, Oakfield, and Ty-Clyd. A legend in the bottom left corner defines the flood risk levels.

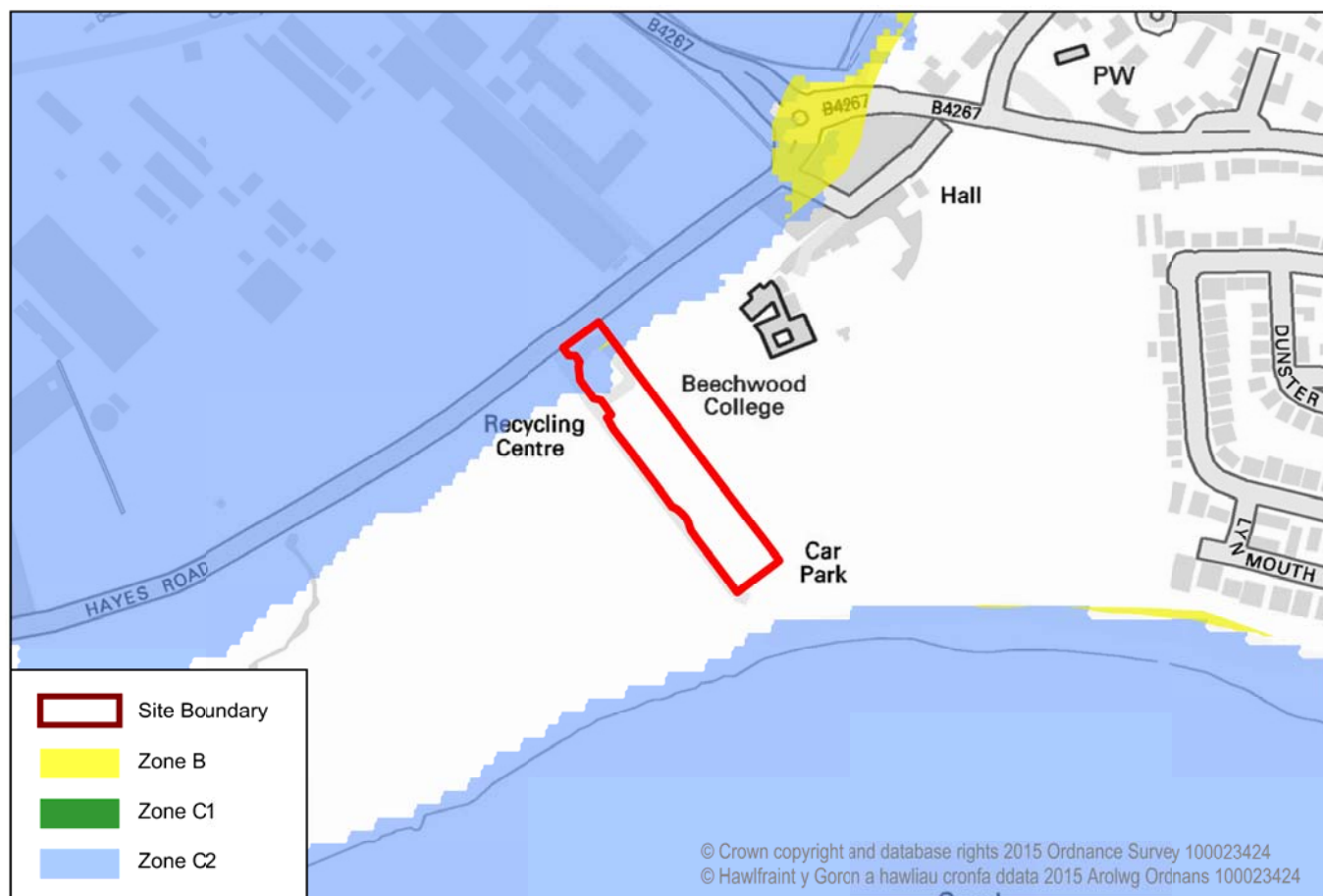
Legend:

- 1 in 30 year
- 1 in 100 year
- 1 in 1000 year

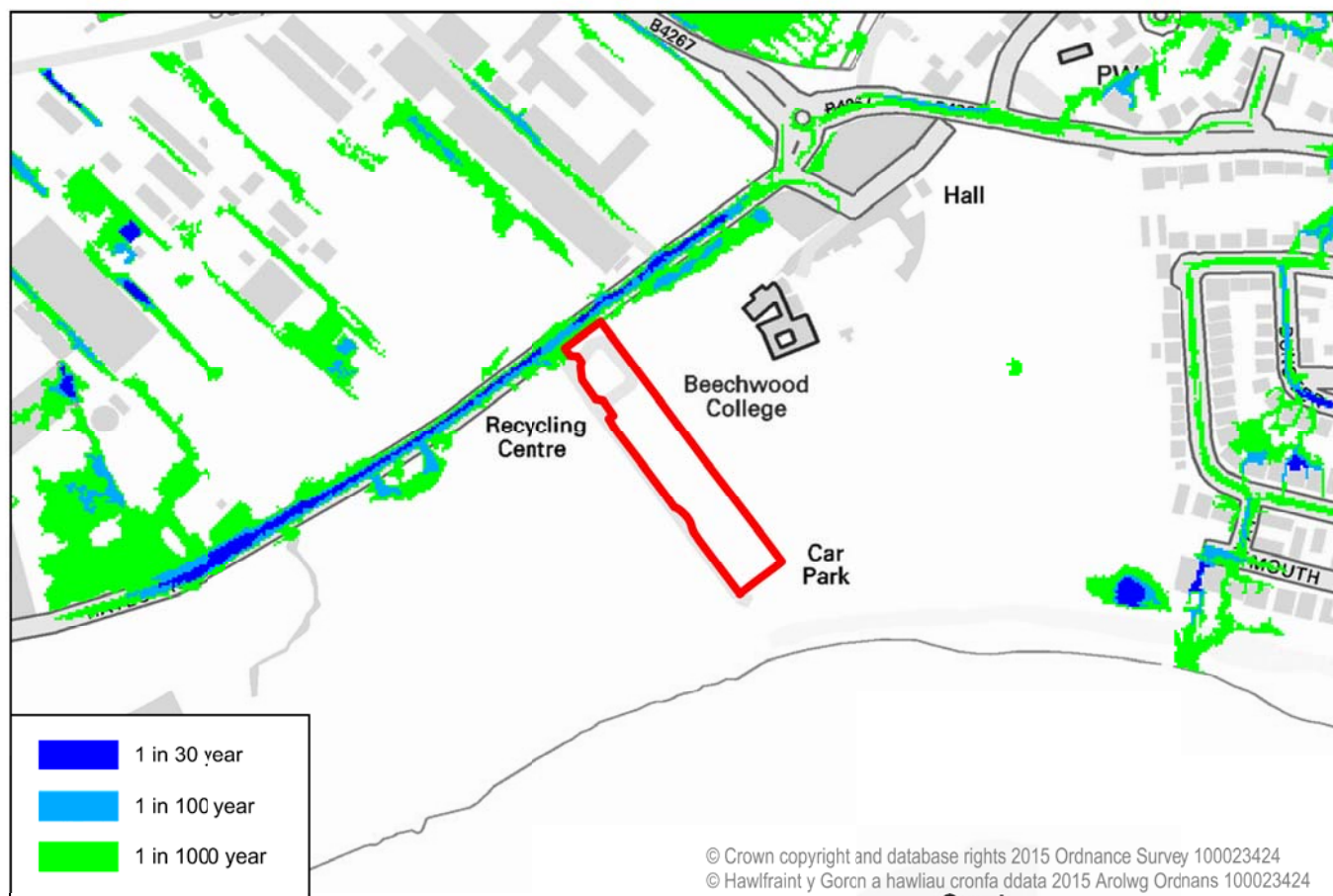
© Crown copyright and database rights 2015 Ordnance Survey 100023424
© Hafren Eiddi y Goron a hawliau cronfa 2015 Arolwg Ordnans 100023424

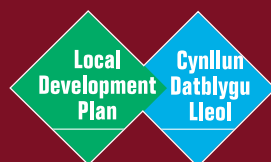
Gypsy and Traveller Site Allocation

Development Advice Maps - Flood Zones - January 2015



Flood Map for Surface Water - updated November 2013





The Vale of Glamorgan Council
Directorate of Development Services

Dock Office
Barry Docks
Barry CF63 4RT

LDP@valeofglamorgan.gov.uk
www.valeofglamorgan.gov.uk