

DRAINAGE STRATEGY REPORT

BIKE PARK WALES

Prepared by: S R Cope

Date: November 2018

Job No: 6655

 Bingham Hall PARTNERSHIP LTD Consulting Civil & Structural Engineers 2 Trident Court East Moors Road Cardiff CF245TD Tel (029)20488588	BIKE PARK WALES	Job No : 6655 Job Ref : Bike Park Wales Designed By : SRC Checked By : Date : November 2018 Revision No : Calc No : Page No : DR1
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CONTENTS

1.0 Introduction

1.1 Background and Proposed Development

1.2 Site Location

2.0 Site Flooding

2.1 Technical Advice Note 15 (TAN15)

3.0 Site Ground Condition Summary

4.0 Existing Site Drainage

5.0 Proposed Site Drainage

5.1 Proposed Foul Drainage

5.2 Surface Water Discharge

Appendix A Site Location Plan

Appendix B Flood Risk Maps

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1.0 Introduction

This Drainage Strategy Report explains the initial design process that has been undertaken by BHPL prior to the Planning Application Stage and is intended to explain the design process undertaken to date and the nature of the proposed drainage design intent.

1.1 Background and Proposed Development

Bingham Hall Partnership Ltd, have been commissioned to undertake the Civil and Structural Engineering aspects of the new Proposed Development and Accommodation Pods/Camping Area.

The development will be a new Bicycle Rental Building and Shower Block, together with a Camping Pod area and new Lodges. The site will also comprise of new car parks and Motorhome area, together with play area and footpaths.

1.2 Site Location

The site is currently Bike Park Wales located off the A470 within Gethin Woods at National Grid Reference SO 04987 03441.

The site consists of private forestry roads and footpaths with foul drainage discharging to a private treatment plant and surface water via soakaways/natural run off.

The National Grid Reference for the site is SO 04987 03441. Refer to Location Map.

2.0 Site Flooding

2.1 Technical Advise Note 15 (TAN15)

TAN15 Development Advise Maps indicate that the Site is located outside of the flood plain which there is little risk or no risk of fluvial or flooding.

To summarise, the Proposed Development meets the requirements of TAN 15.

3.0 Ground Condition Summary

At present there is a historical site investigation which formed part of the design information for the original building, café/office/workshop which confirms rock at shallow depth around the proposed new building and shower block. A new Coal Mining Report and a new Desk Top Study by Messrs Integral Geotechnique reference 12329/LP/18/CMRA dated November 2018 and 12329/LP/18DS has been undertaken and will be issued as part of the Planning Pack.

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4.0 Existing Site Drainage

Bingham Hall Partnership Ltd have reviewed and concluded the on site foul drainage system is an existing foul treatment plant that takes the existing foul flows from the café/office building with the treated liquor discharging to ground. The existing bike wash is currently discharging into a newly constructed reed bed which takes all flows from the bike wash area. The existing surface water runoff from the current office/café building will remain the same, together with external areas. All discharge to ground via a piped network and a series of swales and ditches ultimately discharging to ground.

5.0 Proposed Site Drainage

The proposed foul and surface water drainage solutions are currently being developed in line with the latest proposed site plan. The proposal is as follows: -

5.1 Proposed Foul Water Drainage

The proposal for the new building and shower block is to discharge the flows into the existing treatment plant via new connections. The new camping pods and lodges are to be kept separate from the existing treatment plant due to capacity issues and levels, with a proposed new foul water treatment plant or cess pool to discharge its liquor to ground in a herring bone network of pipes for the proposed new lodges and camping pods only, to the eastern side of the site boundary.

5.2 Surface Water Discharge

The proposed new rental and shower block building will discharge to ground via a swale/soakaway system together with external areas, such that there is no increase in surface water run off with the peak runoff rates the same pre and post construction. The peak greenfield runoff rate for Q100 event = 94.05L/s with the roof area of the lodges being taken by a combination of soakaways and swales to discharge a Q100 rate of 1.81L/s

The new car park area and Motorhome area will be constructed of open bound gravel and stone surfacing allowing all surface water run off to soakaway, together with the use of open swales and soakaways between car parking areas to collect excess run off that has not soaked away following heavy rainfall periods.

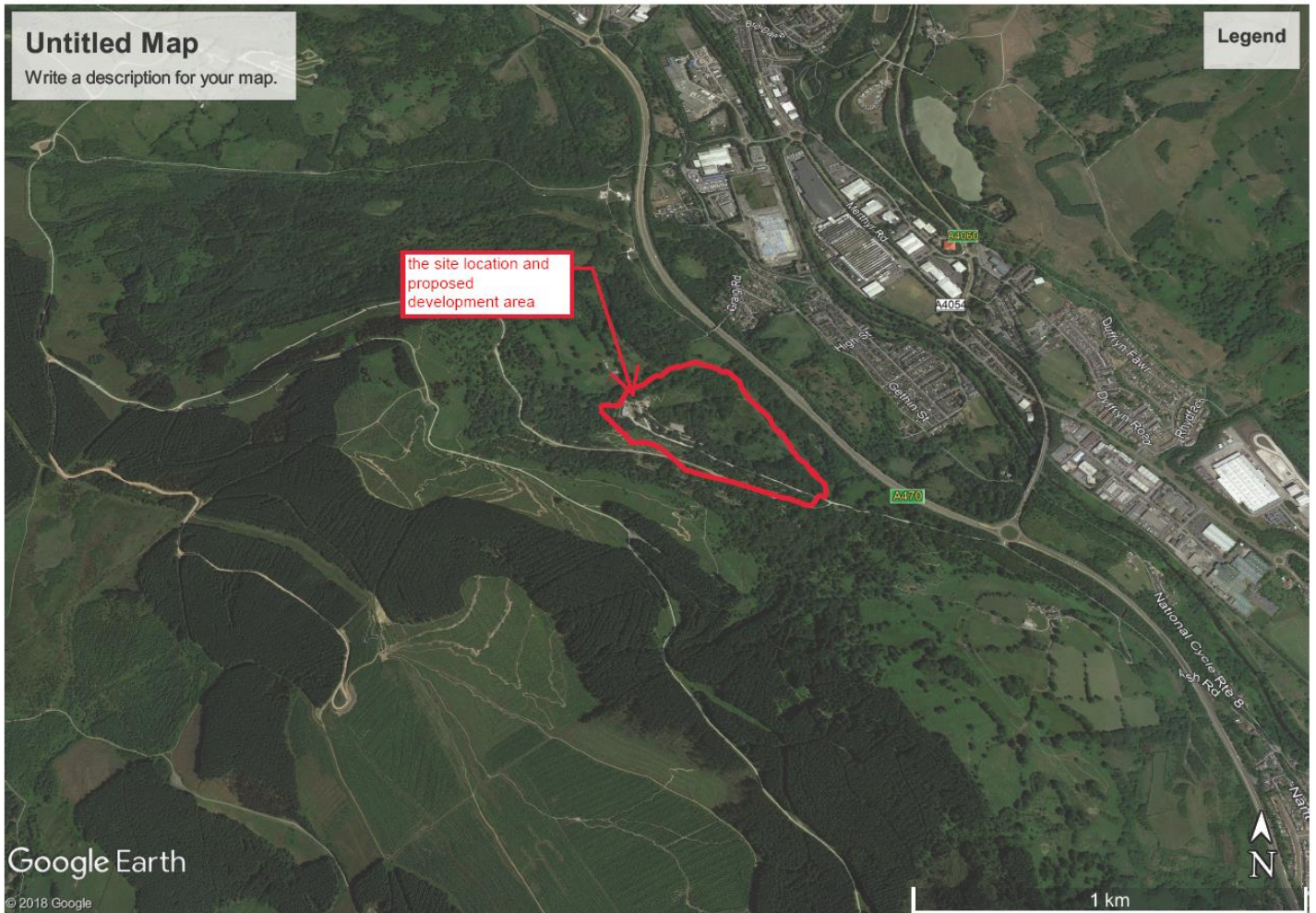
The camping pods will all discharge direct to ground at surface level to reduce and limit any excavations for soakaways in the woodland area to protect any tree root system. Due to the nature and size of the camping pods there will be no increase in surface water run off for this zone.

The new proposed lodges will be designed to have their own individual soakaway/swales, thus conforming to the SUDS Guidelines with all new footpaths and road ways having a natural run off/soakaway as the existing road network together with the use of road catchment swales and ditches as currently used throughout the park.

All new roads and footpaths to be constructed in open bound stone-based macadam which allows percolation, with any excess rain fall being taken by swales and ultimately discharging to ground.

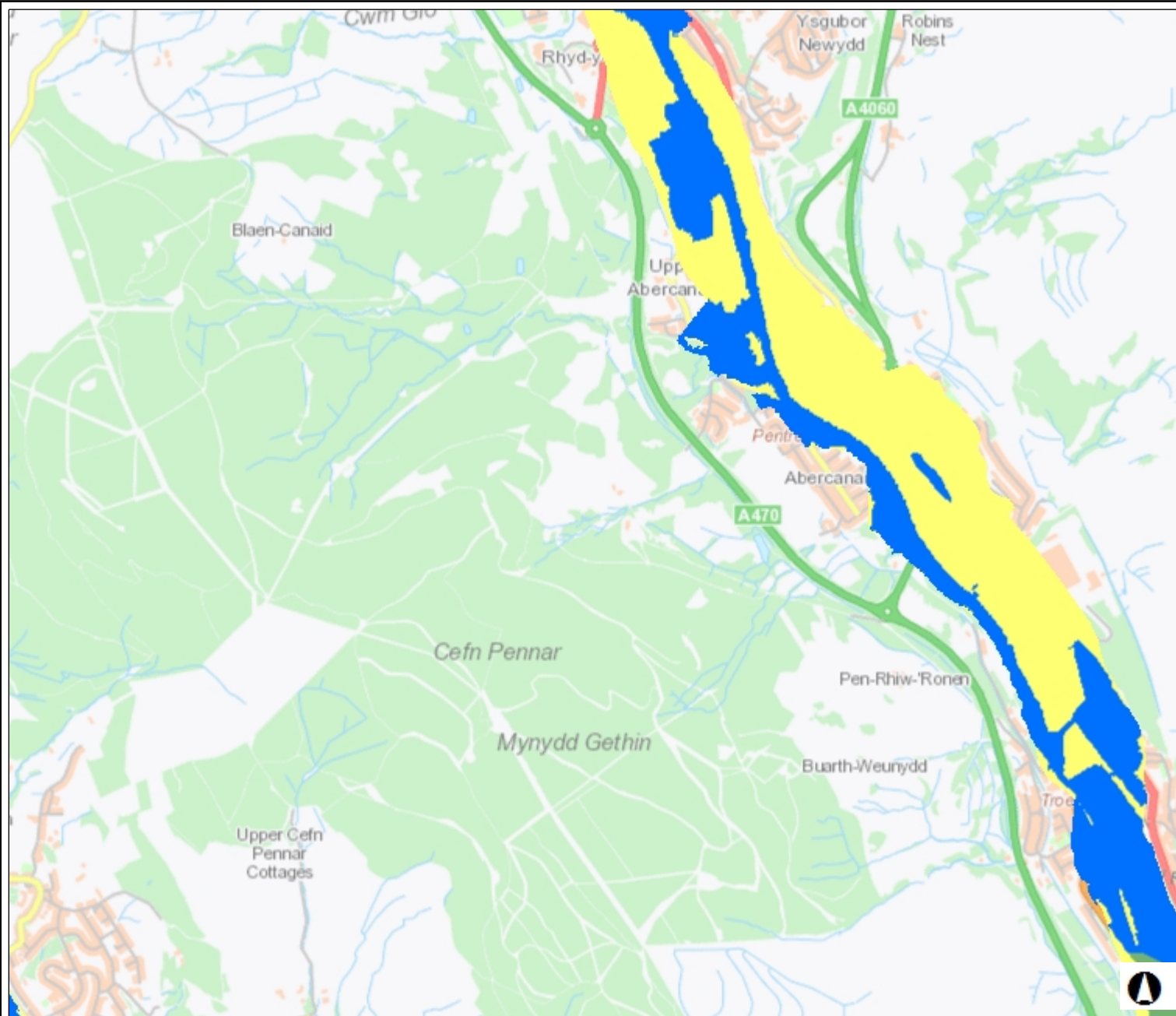
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Appendix A



SITE LOCATION PLAN

Appendix B



Cyfoeth Naturiol Cymru
Natural Resources Wales

development map

Map Perygl Llifogydd / Flood Risk Map

Allwedd / Map Key

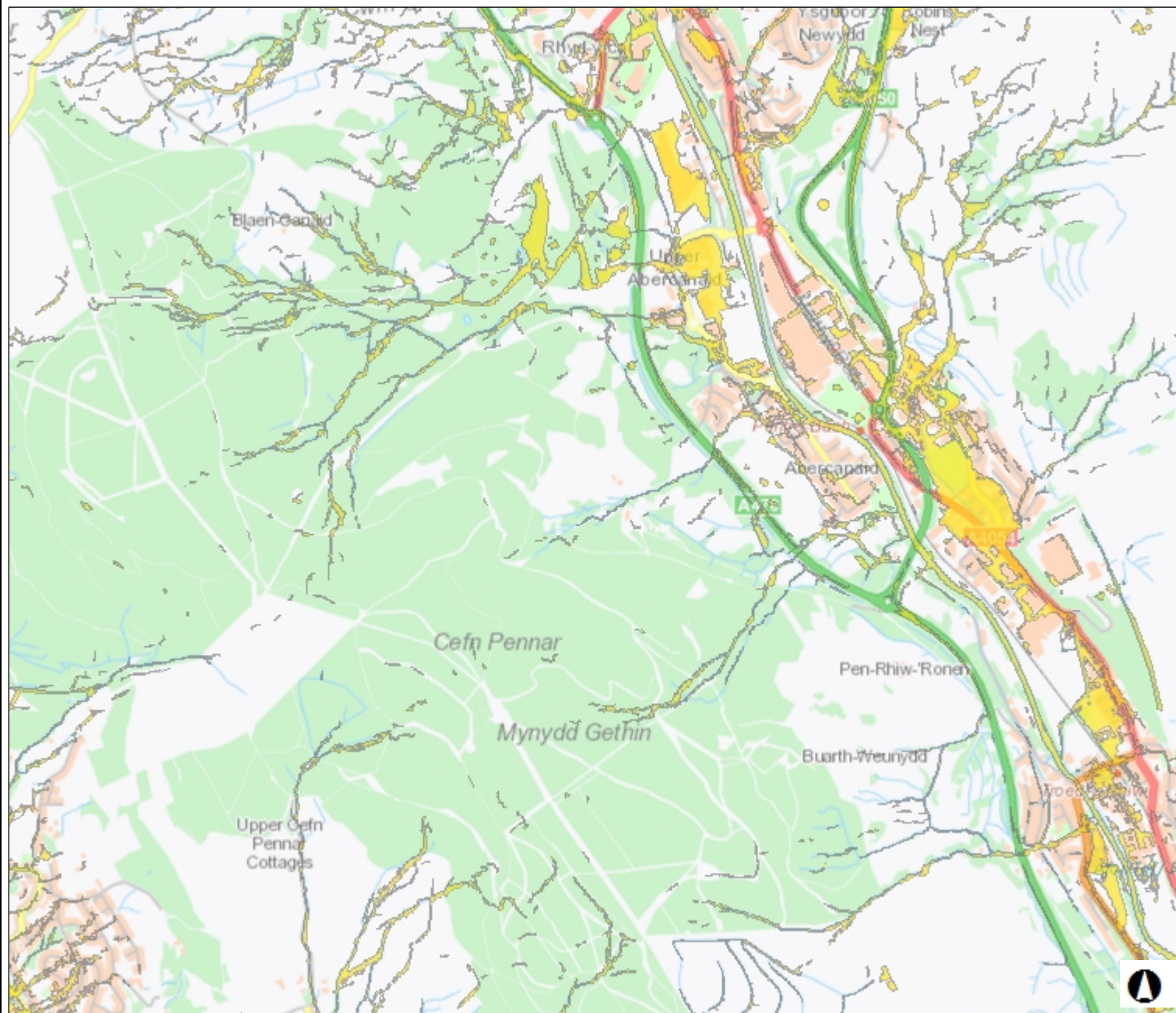
- Zone C1
- Zone C2
- Zone B
- Zone A

Graddfa / Scale 1: 25,000

Dyddiad / Date
20/11/2018



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Cyfoeth Naturiol Cymru
Natural Resources Wales

surface water

Map Perygl Llifogydd / Flood Risk Map

Allwedd / Map Key

 Low Surface Water Flood Risk - Extent

Graddfa / Scale 1: 25,000

Dyddiad / Date
20/11/2018

1.3 0 0.64 1.3

British_National_Grid

Kilometers

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