

Flood Consequence Assessment

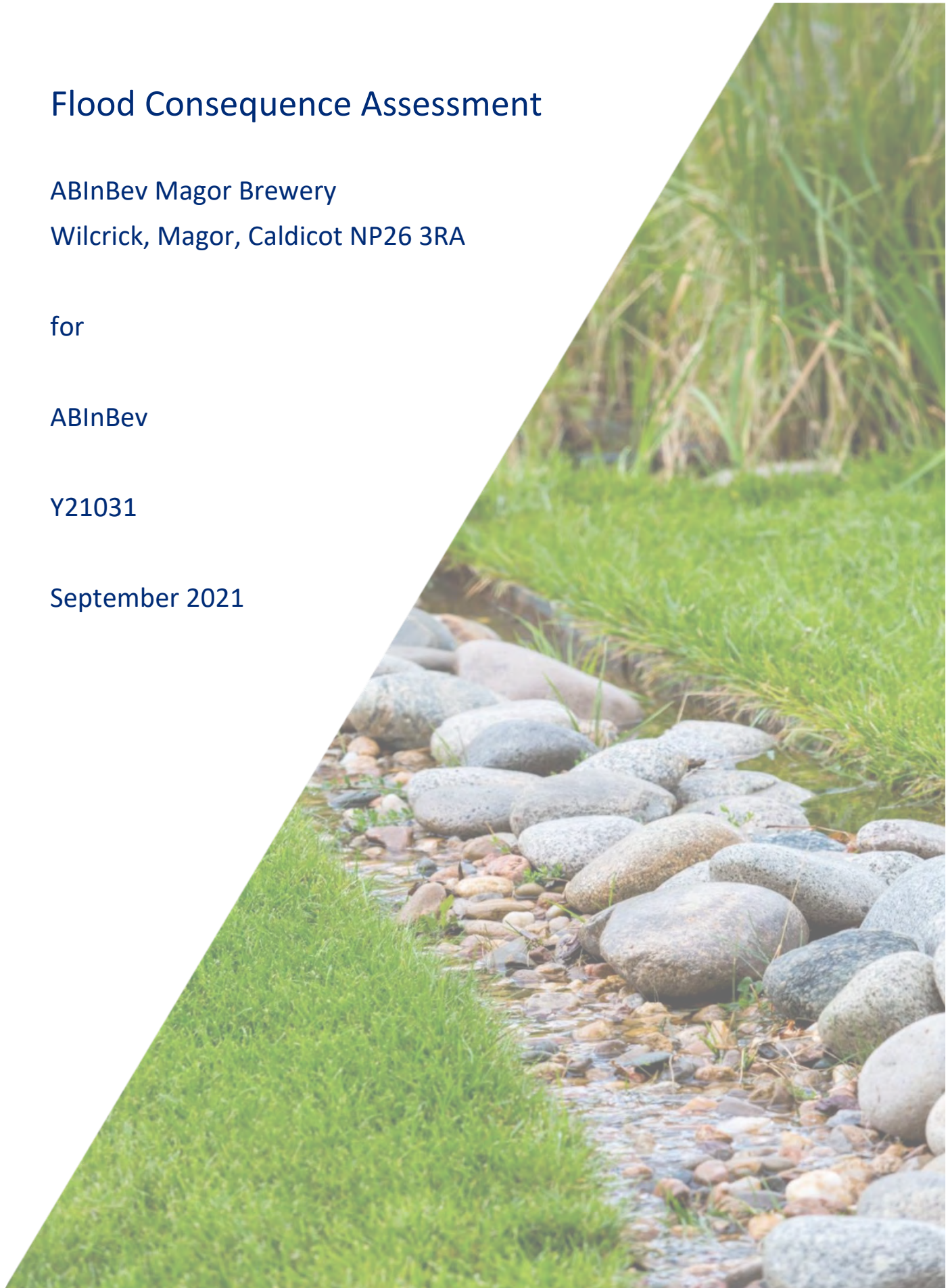
ABInBev Magor Brewery
Wilcrick, Magor, Caldicot NP26 3RA

for

ABInBev

Y21031

September 2021



Flood Consequence Assessment

ABInBev Magor Brewery

for

ABInBev

Revision	Date of issue	Comments	Prepared By	Checked By
1.0	10.09.2021	Initial Issue	AJ	SG

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Executive Summary

Description	
Patrick Parsons has been instructed by ABInBev, to produce a Flood Consequence Assessment accordance with Planning Policy Wales and Technical Advice Note (TAN) 15 to support the Planning Application for the site at ABInBev Magor Brewery, Wilcrick, Magor, Caldicot NP26 3RA.	
Flood Risk Assessment	
Coastal:	Zone A
Fluvial:	Zone A
Pluvial:	Low
Groundwater:	Low
Other sources:	Low
Flood Resilience Measures	
None required	
Conclusions	
The site is not at risk of any forms of flooding.	

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Appendix C	Site Plan
Appendix D	Natural Resources Wales Flood Report

1.0 Introduction

- 1.1.1 ABInBev is planning a proposed development on the site at ABInBev Magor Brewery, Wilcrick, Magor, Caldicot NP26 3RA.
- 1.1.2 Patrick Parsons has been instructed by ABInBev, to produce a Flood Consequence Assessment in accordance with Planning Policy Wales and Technical Advice Note (TAN) 15: Development and Flood Risk.
- 1.1.3 This report aims to demonstrate whether the development is at risk of any form of flooding.
- 1.1.4 The general limitations of this assessment are that:
- Several data sources have been used in compiling this report. Whilst Patrick Parsons believe them to be trustworthy; it is unable to guarantee the accuracy of the information that has been provided by others.
 - This report is based on information available at the time of preparation. There is potential for further information to become available, which may create a need to modify conclusions drawn in this report.

2.0 Location of Site

- 2.1.1 The site is off Sopwith Drive in Byfleet. A location plan is enclosed in **Appendix A**.
- 2.1.2 The Local Authorities are Monmouthshire County Council.

3.0 Site Description

3.1 Existing Site

- 3.1.1 The existing site is the ABInBev Brewery. A topographical survey has been commissioned for the site and can be found at **Appendix B**.

3.2 Existing Geology

- 3.2.1 The geology of the site has been ascertained by reference to the 1:50,000 British Geological Survey website. The data provided on the website indicates the bedrock and superficial drift geology for the site.
- 3.2.2 The strata of the site (bedrock geology) comprises Tintern Sandstone formation, described as follows:

"Tintern Sandstone Formation - Sandstone. Sedimentary Bedrock formed approximately 347 to 372 million years ago in the Carboniferous and Devonian Periods. Local environment previously dominated by rivers. These sedimentary rocks are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting)."

3.3 Hydrology

- 3.3.1 The nearest strategic watercourse is the River Severn, located 3.5km to the south of the site.

4.0 Proposed Development

- 4.1.1 The proposal is to construct a new Perfect Draft facility of (4525 m²). The new building will be situated on the area currently designated as the lorry trailer park. The building is anticipated to be over two floors with production facilities at located at ground floor including dock levelers for HGV loading/unloading and storage surrounding the building for returned empty kegs. Offices and laboratory facilities will be provided at first floor.
- 4.1.2 As part of this development is the replacement of the existing filtration building with a new facility of 1500m² comprising of ground floor and first floor and an overall height of approximately 12m. A dealcoholization building of 725m² will also constitute part of the building. A site plan is attached in **Appendix D**.

5.0 Flooding Information

5.1 Planning Policy Wales (Edition 10, December 2018)

- 5.1.1 Section 6.6 of Planning Policy Wales Edition 10 (PPW10) relates to 'Water and Flood Risk' and outlines the Welsh Government's objectives in terms of addressing flood risk.
- 5.1.2 PPW10 states that all development on land within the flood plain of a watercourse, or drained via culvert, or on low lying land adjacent to tidal water is at some risk of flooding and whilst flood risk can be reduced using mitigation measures it can never be eliminated.
- 5.1.3 Paragraph 6.6.22 states climate change is likely to increase the risk of flooding because of sea level rises, increased storminess, and more intense rainfall. Flooding as a hazard involves the consideration of the potential consequences of flooding, as well as the likelihood of an event occurring.
- 5.1.4 Planning authorities should adopt a precautionary approach of positive avoidance of development in areas of flooding from the sea or from rivers. Surface water flooding will affect choice of location and the layout and design of schemes, and these factors should be considered at an early stage in formulating development proposals.

5.2 TAN 15: Development and Flood Risk (July 2004)

- 5.2.1 TAN 15 provides technical guidance which supplements the policy set out in PPW10 in relation to development and flooding. It advises on development and flood risk as this relates to sustainability principles and provides a framework within which risks arising from both river and coastal flooding, and from additional run-off from development in any location can be assessed.

5.3 Flood Classification

- 5.3.1 As set out in Planning Policy Wales, inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.
- 5.3.2 Flooding information for Planning from the Natural Resources Wales (NRW) website has indicated the site is in an area with a very low risk, as found in the map at **Appendix E**.
- 5.3.3 As the site is within a very low risk area, no further data was required from NRW.
- 5.3.4 As part of the data capture, data and mapping from the Monmouthshire Strategic Flood Risk Assessment (SFRA) was sought. This will be included and references in the relevant sections below.

6.0 Flood Risk

- 6.1.1 According to Tan 15 – Figure 2, the development is classified as less vulnerable as it is commercial.
- 6.1.2 According to Tan 15 – Figure 1 (as below), the development is classified as Zone A and a justification test is not required for the scheme

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

6.2 Fluvial Flooding Risk

6.2.1 The NRW flood information indicates no risk from fluvial sources on the site.

6.3 Historic Flood Data

6.3.1 The NRW mapping has no information indicating that the site was flooded historically from fluvial sources.

6.3.2 The Monmouthshire Local Flood Risk Management Strategy (LFRMS) and Western Wales Preliminary Flood Risk Assessment (PFRA) have no information indicating that the site was flooded historically from fluvial sources.

6.4 Groundwater

6.4.1 Groundwater flooding is caused by the emergence of water originating from sub-surface permeable strata. A ground water flood event results from a rise in ground water level, sufficient for the water table to intersect the ground surface and inundate low lying land. Groundwater floods may emerge from either a single point or diffuse locations.

6.4.2 The underlying strata throughout the area and investigations into the geology data suggest that there is a low risk of groundwater emergence. However, groundwater flooding risks are often highly localised, and dependent upon geological interfaces between permeable and impermeable subsoils. Therefore, sustainable construction techniques for surfacing will minimise any potential groundwater risk.

6.4.3 The drainage strategy for the scheme should be accompanied by appropriate geotechnical investigations and any mitigation for high groundwater levels considered.

6.5 Flooding from Sewers

6.5.1 Flooding from sewers can occur because of different reasons; if sewers are blocked during the heavy rainfalls, or if a sewer cannot provide adequate capacity, then flooding can cause a large amount of damage.

6.5.2 The NRW data does not indicate there has been a risk of flooding historically from surcharged sewers.

6.6 Flooding from Reservoirs

6.6.1 Reservoir flooding is extremely unlikely to happen. There has been no loss of life in the UK from reservoir flooding since 1925. All large reservoirs must be inspected and supervised by reservoir panel engineers.

6.6.2 However, in the unlikely event that a reservoir dam failed, a large volume of water would escape at once and flooding could happen with little or no warning. If the site is within a risk area, plans should be made for safe evacuation and escape. Residents may need to evacuate

immediately, know the safest route to safety, and be ready to follow the advice of emergency services.

6.6.3 The NRW data indicates that the site is at no risk from reservoir flooding.

6.7 Surface Water Flooding

6.7.1 Overland flow / surface water flooding typically arise because of intense rainfall, often of short duration, that is unable to soak into the ground or enter drainage systems. It can run quickly off land and result in localised flooding.

6.7.2 Natural Resources Wales have produced illustrative mapping relating to flooding risks from surface water and small watercourses.

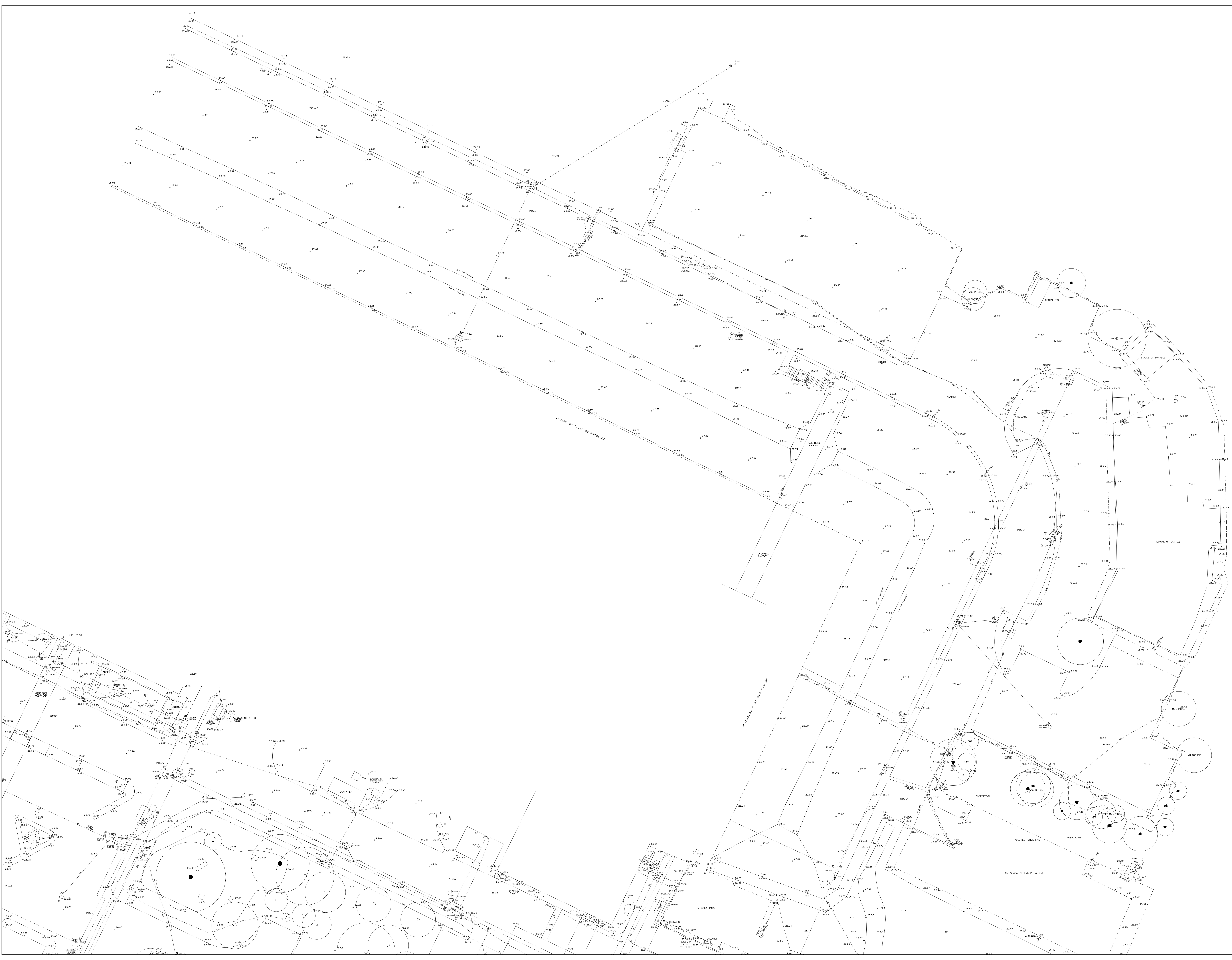
6.7.3 A review of the NRW mapping indicates there is a low risk of surface water flooding to the site, which is localised and can be easily mitigated with the proposed drainage strategy.

7.0 Summary and Conclusions

- 7.1.1 ABInBev is planning a proposed development on the site at ABInBev Magor Brewery, Wilcrick, Magor, Caldicot NP26 3RA.
- 7.1.2 Patrick Parsons has been instructed by ABInBev, to produce a Flood Consequence Assessment in accordance with Planning Policy Wales and Technical Advice Note (TAN) 15: Development and Flood Risk.
- 7.1.3 The Natural Resources Wales mapping indicates that the site is within Flood Zone A and has a very low risk of fluvial flooding.
- 7.1.4 All other sources of flooding for the site have been investigated and shown to be of minimal or no risk.
- 7.1.5 The proposed development is appropriate and sustainable in the terms as set out in Planning Policy Wales.

Appendix A
Location Plan

Appendix B Topographical Survey



KEY

- BS BUS STOP
 - BT BRITISH TELECOM COVER
 - CL COVER LEVEL
 - CDV CABLE TELEVISION COVER
 - CTV CABLE TELEVISION COVER
 - EP ELECTRICITY POLE
 - ER EARTHING ROD
 - PH FIRE HYDRANT
 - FL FLOOR LEVEL
 - G GULLY
 - HT HEIGHT
 - I INVERT LEVEL
 - LB LITTER BIN
 - LP LAMP POST
 - MH MANHOLE
 - MKR MARKER
 - MT MERCURY TELEPHONE COVER
 - NB NOTICE BOARD
 - PB PILLAR BOX
 - PO POST OFFICE COVER
 - RE RODDING EYE
 - RS ROAD SIGN
 - RWP RAIN WATER PIPE
 - SC STOP COCK
 - SP SIGN POST
 - SV STOP VALVE
 - TBM TEMPORARY BENCH MARK
 - TCB TELEPHONE CALL BOX
 - TL TRAFFIC LIGHTS
 - TP TELEGRAPH POLE
 - VP VENT PIPE
 - WC WATER COVER
 - WM WATER METER
- SURVEY STATION
 FENCE LINE

LEVEL DATUM INFORMATION:
 ALL LEVELS RELATED TO OSGB36 (15)

SEE KEY DRAWING FOR SHEET POSITIONS

Rev	Description	Date	Drawn by	Approved by
RC		27/01/21	LM	

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client: **PATRICK PARSONS**

project: **CANNING FACTORY
MAGOR**

drawing: **TOPOGRAPHICAL SURVEY
AS EXISTING**

sheet number: 2020_00983_SU1	scale: 1:200
drawing number: 02	revision: INFORMATION

This drawing is to be used in conjunction with all related drawings. All dimensions must be checked and verified on site before commencing any work or producing shop drawings. The originator shall be held responsible for any discrepancies. This drawing is copyright and remains the property of AHR.



KEY

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LEVEL DATUM INFORMATION:
 ALL LEVELS RELATED TO OSGB36 (15)
 SEE KEY DRAWING FOR SHEET POSITIONS

GPR DETECTION: INCONCLUSIVE
 IN THIS AREA DUE TO
 REINFORCED CONCRETE

No.	Description	Date	Drawn by	Approved by
RC		27/01/21	LM	

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client: **PATRICK PARSONS**

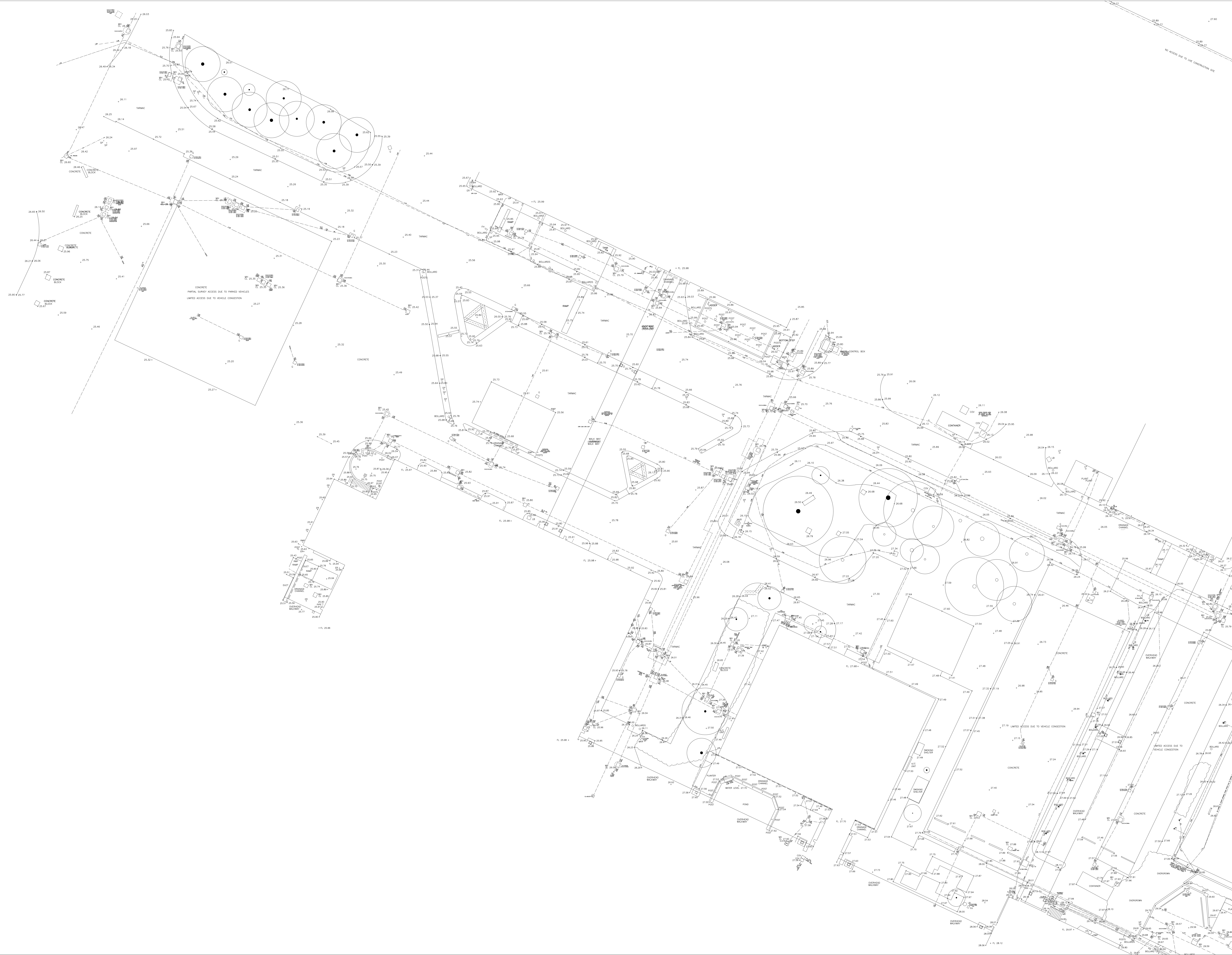
project: **CANNING FACTORY
 MAGOR**

drawing: **TOPOGRAPHICAL SURVEY
 AS EXISTING**

Project number	Scale
2020_00983_SU1	1:200
Drawing number	Revision
03	1

INFORMATION

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- SURVEY STATION
 FENCE LINE

LEVEL DATUM INFORMATION:
 ALL LEVELS RELATED TO OSGB36 (15)
 SEE KEY DRAWING FOR SHEET POSITIONS

Rev	Description	Date	Drawn by	Approved by
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Client: **PATRICK PARSONS**
 Project: **CANNOCK FACTORY MAGOR**
 Drawing: **TOPOGRAPHICAL SURVEY AS EXISTING**

Project Number:	2020_00983_SU1	Scale:	1:200
Drawing Number:	01	Revision:	

This drawing is to be used in conjunction with all related drawings. All dimensions must be checked and verified on site before commencing any work or producing shop drawings. The originator shall be notified immediately of any discrepancies. This drawing is copyright and remains the property of AHR.

Appendix C Site Plan

MAGOR EPCM

Ab InBev
 The Brewery, Magor,
 Monmouthshire NP26 3RA, UK
 Cadastre: x - Section x - Parcelle x

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ARCHITECT
 BEGOÑA SOTO TRUJILLO

STATUS
 FOR APPROVAL

PD PLANNING APPLICATION

PLAN Nº
01.06

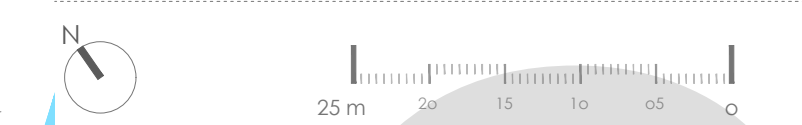
REV 0

DISCIPLINE
 ARCHITECTURE

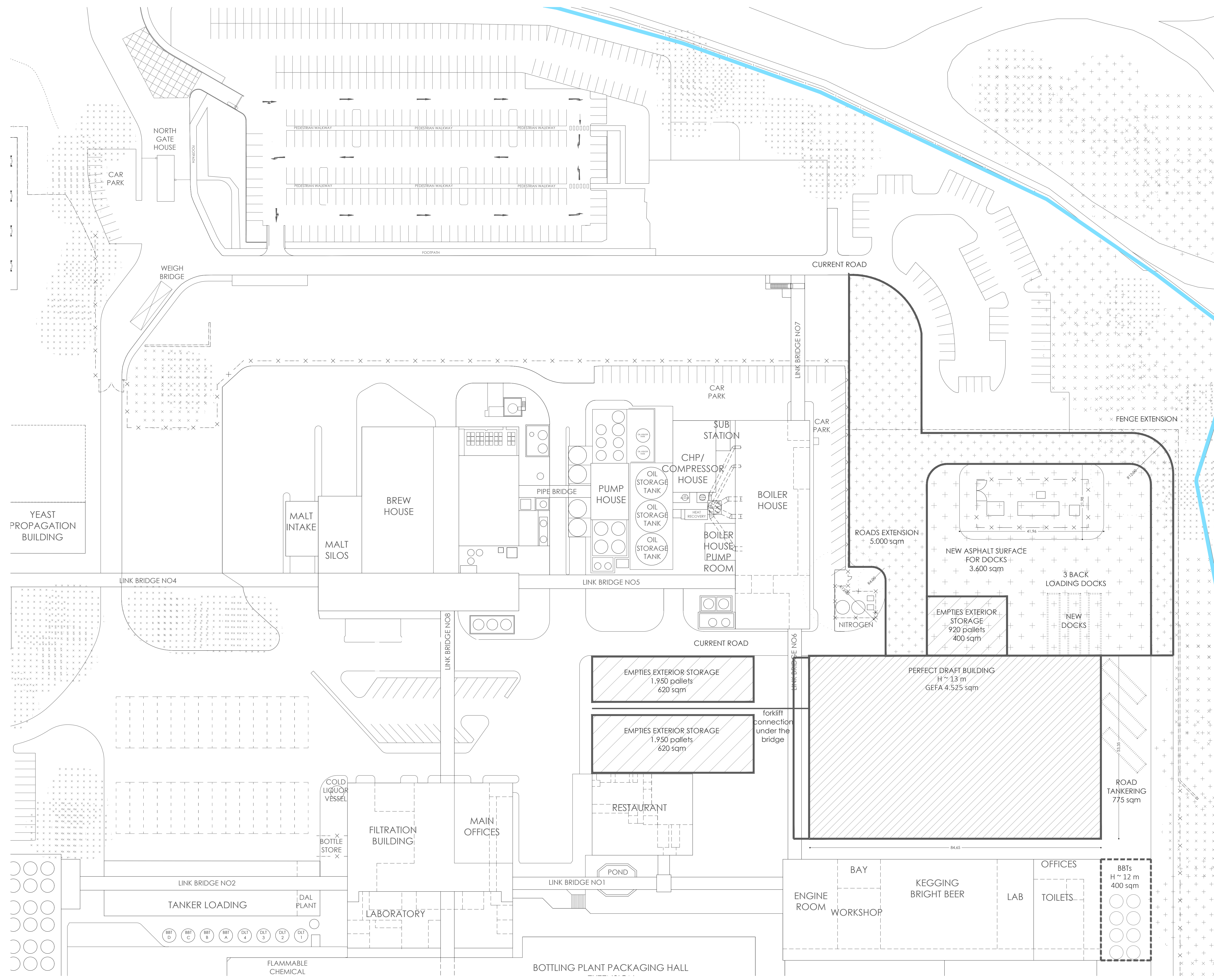
DESCRIPTION
 PROPOSED SITE PLAN

CLIENT REFERENCE
 XXXXX

PROJECT CODE	SCALE	PAPER	SCALE	PAPER
O2082	1:500	A1	1:1000	A3



REVISION	CHANGES	DATE
REV 0	APPLICATION	20/08/2021
REV 1		
REV 2		
REV 3		
REV 4		
REV 5		



ROADS EXTENSION
5.000 sqm

NEW ASPHALT SURFACE FOR DOCKS
3.600 sqm

EMPTIES EXTERIOR STORAGE
920 pallets
400 sqm

3 BACK LOADING DOCKS

NEW DOCKS

EMPTIES EXTERIOR STORAGE
1.950 pallets
620 sqm

EMPTIES EXTERIOR STORAGE
1.950 pallets
620 sqm

forklift connection under the bridge

PERFECT DRAFT BUILDING
H ~ 13 m
GEFA 4.525 sqm

ROAD TANKERING
775 sqm

BBTs
H ~ 12 m
400 sqm

- BBT D
- BBT C
- BBT B
- BBT A
- DLT 4
- DLT 3
- DLT 2
- DLT 1

FLAMMABLE CHEMICAL

BOTTLING PLANT PACKAGING HALL

Appendix D
Natural Resources Wales Flood Report

**A B INBEV UK LTD, MAGOR BREWERY, WILCRICK, MAGOR,
CALDICOT, NP26 3RA**

Very low risk

Flooding from rivers

Risk less than 0.1% chance each year

Very low risk

Flooding from the sea

Risk less than 0.1% chance each year

Low risk

**Flooding from surface water and small
watercourses**

Risk between 0.1% and 1% chance each year

The risk levels are: High, Medium, Low and Very low.

This area:

- Does not benefit from flood defences
- Has no recorded flooding

This risk level takes into account the effect of any flood defences that may be in this area. Flood defences reduce, but do not completely stop the chance of flooding as they can be overtopped or fail.

Please note

We cannot give the flood risk for individual buildings because this depends on building features and other local factors like drainage conditions.

UK locations:

Ash Vale

Birmingham

London

Yorkshire



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