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Flood Consequences Assessment

FCA

Proposed 3G Sports Pitch, Resolven

prepared for

Resolven Community Council

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Flood Consequences Assessment

Proposed 3G Sports pitch, Resolven



Consulting Civil & Structural Engineers

FLOOD CONSEQUENCES ASSESSMENT

Proposed 3G Sports Pitch, Resolven

25206

Document Control

Responsible for	Job Title	Name	Date	Signature
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A			
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Distribution

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1	Client		
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CONTENTS

Section	Item	Page
1.0	INTRODUCTION	1
2.0	SITE LOCATION & DESCRIPTION	2
3.0	THE PROPOSED DEVELOPMENT	3
4.0	EXISTING FLOOD RISK	4
5.0	ACCEPTABILITY OF FLOOD CONSEQUENCES	8
6.0	ASSESSMENT OF FLOOD CONSEQUENCES MITIGATION MEASURES	11
7.0	DRAINAGE STATEMENT	12
8.0	SUMMARY & RECOMMENDATIONS	13

APPENDIX 1 – SITE PROPOSALS

APPENDIX 2 – NRW FLOOD MAP FOR PLANNING

APPENDIX 3 – IMPERMEABLE AREAS PLAN

APPENDIX 4 – OVERLAND FLOOD ROUTING

Flood Consequences Assessment

Proposed 3G Sports pitch, Resolven



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List of Figures

References

- | | |
|----|--|
| 1 | CIRIA – The SuDS Manual (C753) |
| 2 | UK SUDS (www.uksuds.com) |
| 3 | Welsh Water Asset Plans |
| 5 | Google Maps |
| 6 | Ordnance Survey Mapping |
| 7 | BRE Digest 365 Soakaway Design |
| 8 | National Soil Resources Institute (SoilScapes) |
| 10 | NRW Online Flood Risk for Planning Map |
| 12 | - |

Abbreviations

DCWW	DWR Cymru Welsh Water
A.O.D.	Above Ordnance Datum
NRW	Natural Resources Wales
FW	Foul Water
SW	Surface Water
SuDS	Sustainable Drainage Systems
l/s	Litres Per Second

This document has been created during the design stage of the project and should not be used as a replacement for the final operation and maintenance requirements of the proposed works. It shall remain relative only to those features identified on the attached plan. This document is intended to support the development of the official operation and maintenance document which shall be the responsibility of the principal contractor.

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1.0 INTRODUCTION

QuadConsult Ltd (QCL) has been commissioned by Resolven Community Council to undertake a Flood Consequences Assessment (FCA) in support of a planning application for a proposed 3G sports pitch in the existing public park, Resolven.

This report will draw upon information supplied by the Client and that available within the public domain including the local authority Planning Portal and NRW Flood Map for Planning (detailed) data.

This FCA will investigate potential flood risks that may exist on or adjacent the site and propose mitigation measures to deal with these in line with Technical Advice Note 15 (TAN15) using available NRW flood data and reports.

This report has been prepared in line with the updated 2025 Wales Technical Advice Note (TAN) 15 Development Flooding and Coastal Erosion and Circular 002/2025 Guidance on the Town & Country Planning (Flood Risk Area Development) (Notification) (Wales) Direction 2025 dated 31st March 2025.

2.0 SITE LOCATION & DESCRIPTION

The site is located south of the A465 and north of Vaughan Avenue in Resolven, Neath. The nearest post code is SA11 4HW, site coordinates 282609, 202691.

The existing site topography (Appendix 1), the existing topography indicates a fall from east to west.



Figure 1 - Location Plan

3.0 THE PROPOSED DEVELOPMENT

It is proposed to construct a new 3G sports pitch as a direct replacement to an existing traditional grass and tarmac surface area (See Appendix 1). The aim of this report is to demonstrate that flood risk from all sources is considered and assessed in line with the principles of TAN15 (2025) and that measures are put in place to ensure that any flood risk is mitigated wherever possible.

A thorough flood risk assessment, adhering to TAN15 guidelines, has been undertaken to evaluate and mitigate all identified risks. This proactive approach aims to ensure the safety and longevity of the development by considering historical data, topography, watercourses, drainage, and climate change impacts.

Flood Map for Planning (Flood Zone Category)

The proposed sports surface falls under the classification of '**Less Vulnerable Development**' as defined in Figure 4 TAN15.

With reference to the Flood Maps for Planning, the site is situated wholly within Zone 3 (Defended) with a greater than 1 in 100 (1%) chance of flooding in a given year, including climate change

This site accords with the requirements stated in Section 10.17 TAN15 in terms of suitability for development, with re-development of the brownfield site sustaining the local community with leisure facilities. This proposed replacement/ redevelopment proposal does not over intensify use neither does it reduce the area's ability to absorb flood water nor cause problems with flooding elsewhere. Section 8.4 of TAN15 gives preference to the re-use of previously developed land in line with PPW.

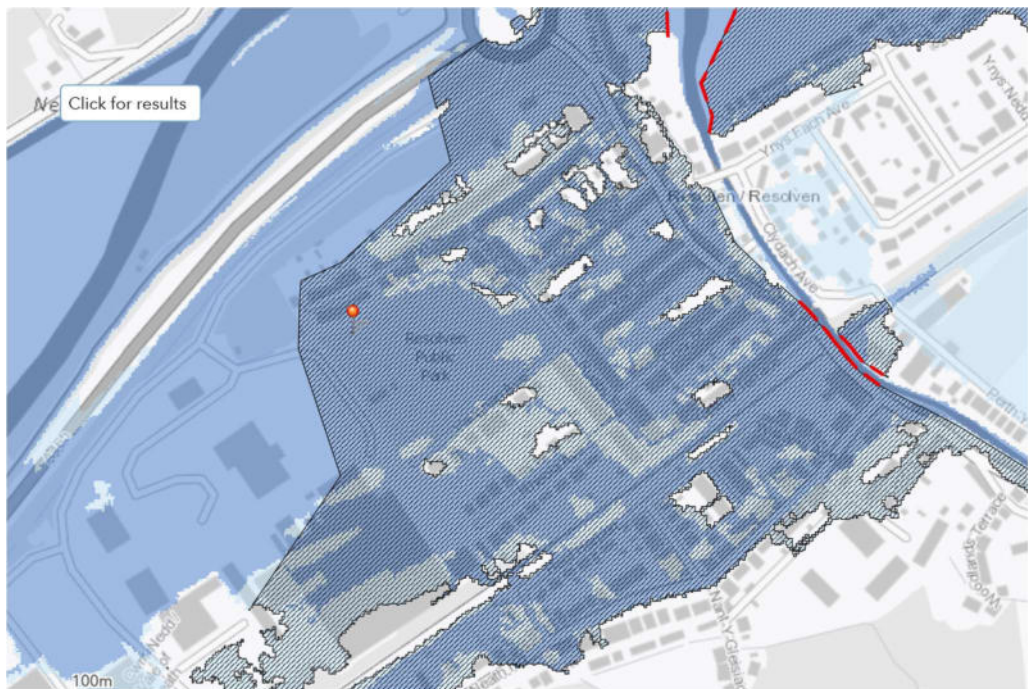
4.0 EXISTING FLOOD RISK

FLOOD DATA

QCL Limited has assessed the site against the NRW Flood Map for Planning and confirm that it lies wholly within Zone 3 (defended). A request for flood data was made with NRW who confirmed that no updated model was available for distribution at this time, the only data available being for models run in 2020. This, however, does not preclude the ability to assess the site in line with the latest TAN15 requirements and is covered in Section 5.

4.1 Flood Risk (Rivers)

A review of the Flood Map for Planning confirms the site to lie within Zone 3 (Defended from the Clydach Brook) with a greater than 1 in 100 (1%) chance of flooding in a given year, including climate change.



NRW Flood Map for Planning (Rivers) extents

4.2 Flood Risk from Sea

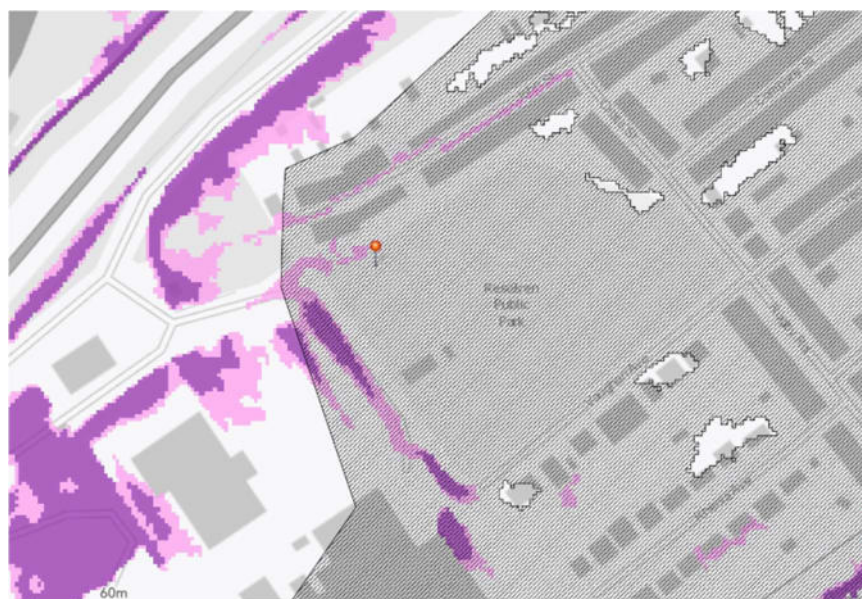
A review of the Flood Map for Planning confirms the site to lie within Zone 3 (Defended) with a greater than 1 in 100 (1%) chance of flooding in a given year, including climate change. The site is not at risk of tidal effects or flooding from the sea.



Flood Map for Planning Sea

4.3 Flood Risk from Surface Water and small watercourses.

A review of the Flood Map for Planning confirms the site to lie within Zone 3 (Defended) with a greater than 1 in 100 (1%) chance of flooding in a given year, including climate change. The site is not at risk of flooding from surface water or small watercourses.



Flood Map for Planning Surface water and small watercourses

4.4 Flood Risk Reservoirs

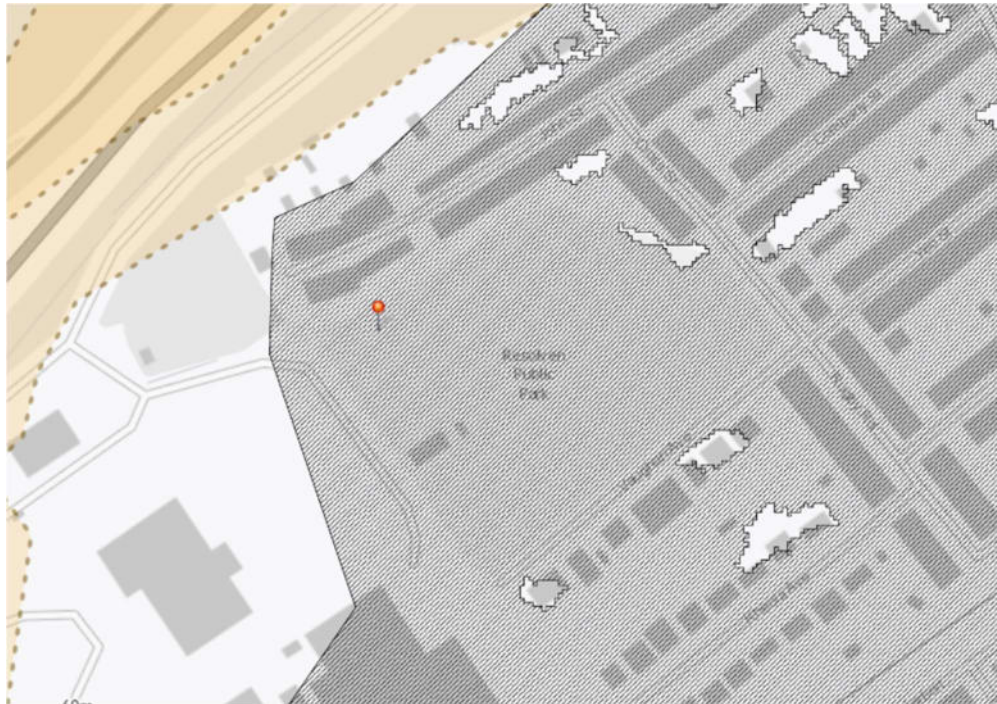
A review of the Flood Map for Planning confirms the site to lie within Zone 3 (Defended) with a greater than 1 in 100 (1%) chance of flooding in a given year, including climate change. The site is not at risk of flooding from reservoir failure/ breach.



Flood Map for Planning Reservoirs

4.5 Historical Flooding

There are no records of historical flooding to the site although flood events were recorded in 1938 as shown below.



Flood Map for Planning Previous Flooding

4.6 Other Sources of Flood

The topographical survey and record drawings confirm the presence of manholes and a DCWW 225mm cast iron combined drainage network which traverses the site and is live. There remains the potential for flooding on site should this sewer collapse or become blocked although there are no known chambers within the footprint of the development through which flows could escape.

5.0 ACCEPTABILITY OF FLOOD CONSEQUENCES

Redevelopment of the brownfield site with a new 3G pitch will provide valuable, improved leisure facilities for the area for many years to come. The existing site is currently a grassed sports pitch, and the 3G replacement will **not** result in any increase in development footprint nor potential displacement of potential floodwaters should breach or overtopping of the current defences occur as proposed finished ground levels will remain as existing. Indeed, the new pitch construction comprises a graded stone sub-base which would offer the ability to store potential floodwater albeit in small measure.

The proposal accords with the requirements stated in Section 10.17 TAN15 in terms of suitability for development, with re-development of the brownfield site sustaining the local community with leisure facilities. This proposed replacement sports surface does not over intensify use neither does it reduce the area's ability to absorb flood water (the opposite in fact as described above) nor cause problems with flooding elsewhere. Section 8.4 of TAN15 gives preference to the re-use of previously developed land in line with PPW.

This FCA confirms that the development is adequately protected from an unacceptable level of flood risk and that there is:

- No increase in flooding elsewhere
- Occupiers aware of flood risk
- Escape/evacuation routes present
- Flood emergency plans and procedures agreed and in place
- Flood resistant and resilient design
- Acceptable consequences for type of use:
 - Minimal risk to life
 - Minimal disruption to people living and working in the area;
 - Minimal potential damage to property;
 - Minimal impact of the proposed development on flood risk generally;
 - and minimal disruption to the sustainable management of natural resources.

5.1 Flood Free Thresholds

Flood-free thresholds, based on a minimum annual probability event reflecting acceptable flood risk are defined in TAN15 Fig 5 overleaf. Specific parameters will

consider land use, flooding consequences, and regulations to establish a clear benchmark for flood resilience.

The proposed development is considered a less vulnerable development and is defended against the risk of flooding from the Clydach Brook situated to the east.

It is also important to put this risk into context and acknowledge that existing flood defences will invariably be modified and strengthened to offer a higher standard of protection to the existing adjacent residential areas (for which they were built) against the mechanisms described in the preceding section that cover the most extreme scenarios.

With reference to Section 8.3 of TAN 15 (& Planning Policy Wales), it is important to consider that the site is a **re-development** and not new. This acknowledges that flood risk is an existing issue, and proposals within this FCA seek to improve the existing drainage mechanism through the management of surface water by introduction of SUDs features without increasing flood risk elsewhere. This provides a betterment to the existing scenario whilst mitigating any flooding issues to any adjacent properties and ensure the safety of residents in the surrounding area.

5.2 Tolerable Flooding

In situations of the extreme flood event, it is understood that complete protection from flooding for all development may not be achievable. Consequently, it becomes critical to ensure that such flooding does not present a threat to life.

The proposed development lies within a Zone 3 (Defended) with a greater than 1 in 100 (1%) chance of flooding in a given year, including climate change

Figure 5 – Flood events in which development must be flood-free

Vulnerability Categories		Flood event type	
		Rivers	Sea
Highly vulnerable development	Emergency services (command centres and hubs)	0.1%+CC (1 in 1,000)	0.1%+CC (1 in 1,000)
	All other types	1% +CC (1 in 100)	0.5%+CC (1 in 200)
Less vulnerable development		1% +CC	0.5% +CC
Water compatible development that may be occupied by people		(1 in 100)	(1 in 200)

Figure 6 overleaf describes tolerable conditions for the extreme 1:1000-year flood event, although on this occasion the sports pitch falls loosely under 'less vulnerable' development as it is not technically an 'equipped' play area .

Flood Consequences Assessment

Proposed 3G Sports pitch, Resolven



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Figure 6 – Tolerable conditions in an extreme flood event

Types of new development	Maximum depth of flooding (mm)	Maximum velocity of flood waters (metres/sec)
Highly vulnerable development	600	0.15
Less vulnerable development Infrastructure associated with highly vulnerable development e.g. car parks, access, paths and roads Water compatible development (limited to those built elements of development that may be occupied by people)	600	0.3

ASSESSMENT OF FLOOD CONSEQUENCES MITIGATION MEASURES

5.3 Existing Site

The existing brownfield site is a grassed and tarmac sports pitch area, and the proposals are simply to replace the playing surface itself. It is not 'occupied' as such and users of the facility will be at no greater risk to the effects of flooding as they are at present.

5.4 Finished Floor Level

The site contains no structures that are subject to permanent damage nor could they be washed away by floodwaters or trap waterborne debris. Proposed ground levels are the same as the existing so consequently no increased risk and no potential for the displacement of floodwaters to other areas in the event of flood defence failure.

5.5 Flood Evacuation

With the site lying wholly within a defended Flood Zone 3, use of the Council run facility could be withdrawn during periods of heavy rainfall and increased flood risk in the surrounding area. The site lies within the NRW Flood warning area from the Clydach Brook and the Local Authority will be aware of this and can take appropriate measures to inform the public and close the facility.

5.6 Flood Resilient Design

The proposed surface is synthetic and would offer inherent resilience to potential damage from water and flood.

6.0 DRAINAGE STATEMENT

QuadConsult Ltd have prepared a separate Drainage Strategy report with supporting drawings and submitted a PreSAB application to the Local Authority for consideration. The PreSAB application and drainage strategy has received a positive response.

7.0 SUMMARY & RECOMMENDATIONS

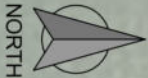
Summary

This report demonstrates that the proposed development meets with the criteria required when assessing Flood Consequences as laid out in TAN15 (2025).

QCL have demonstrated that the proposed development would remain flood free for the extreme flood as it is defended when assessed against NRW Flood Map for Planning. It lies within an NRW Flood warning area so that appropriate action could be taken to close the facility should the risk of flooding increase.

FLOOD ACCEPTABILITY	JUSTIFICATION
No Increase in flooding elsewhere	The site is low vulnerability and lies wholly within Zone 3 (defended). The proposed ground levels will remain as existing so no potential flood storage would be displaced as a result of the development.
Occupiers aware of flood risk	The site developer has been made aware of the flood risks identified in this report and should communicate this to the end users.
Escape/evacuation routes present	The site lies wholly within Zone 3 (defended) and the facility closed to users during times of high risk following NRW flood warnings.
Flood emergency plans and procedures agreed and in place	The operator should sign up to Flood Line if, as current owners, they are not already.
Flood resistant and resilient design	Noted in Section 5.6
Flood Free Threshold	The site is a defended ground level sports surface. There are no formal occupied structures as part of the proposed development. Flooding would only occur if the defences were breached. As the site lies within an NRW warning area the owner has opportunity to receive advanced warnings and act appropriately. The risk is therefore deemed negligible and manageable.
Tolerable Flooding	Flood free for the extreme event in the defended state. The synthetic surface lends itself to swift recovery following flood. The facility would be closed during flood warning periods so present no increased risk to the public.

APPENDIX 1 – SITE PROPOSALS



NOTES :

KEY

- Existing Site Boundary
- Proposed Site Boundary
- Proposed 3G Surface
- Proposed Line Marking
- Proposed Lighting Column



REV	DATE	DESCRIPTION	DRAWN BY	APPR BY
P01	06.05.25	First Issue	JA	RJ

DRAWING NUMBER : C0428 - VPRN - 0001	
BIM NUMBER N/A	STATUS: REV: P01

PROJECT TITLE :
VAUGHAN PARK RESOLVEN 3G

DRAWING TITLE :
PROPOSED GENERAL ARRANGEMENT

DATE : 06.05.25	JOB NO : VPRN
DRAWN BY : JA	SCALE : 1:250
APPROVED BY : RJ	PRINTED SIZE : A3

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APPENDIX 2 – NRW FLOOD MAP FOR PLANNING(DETAILED)

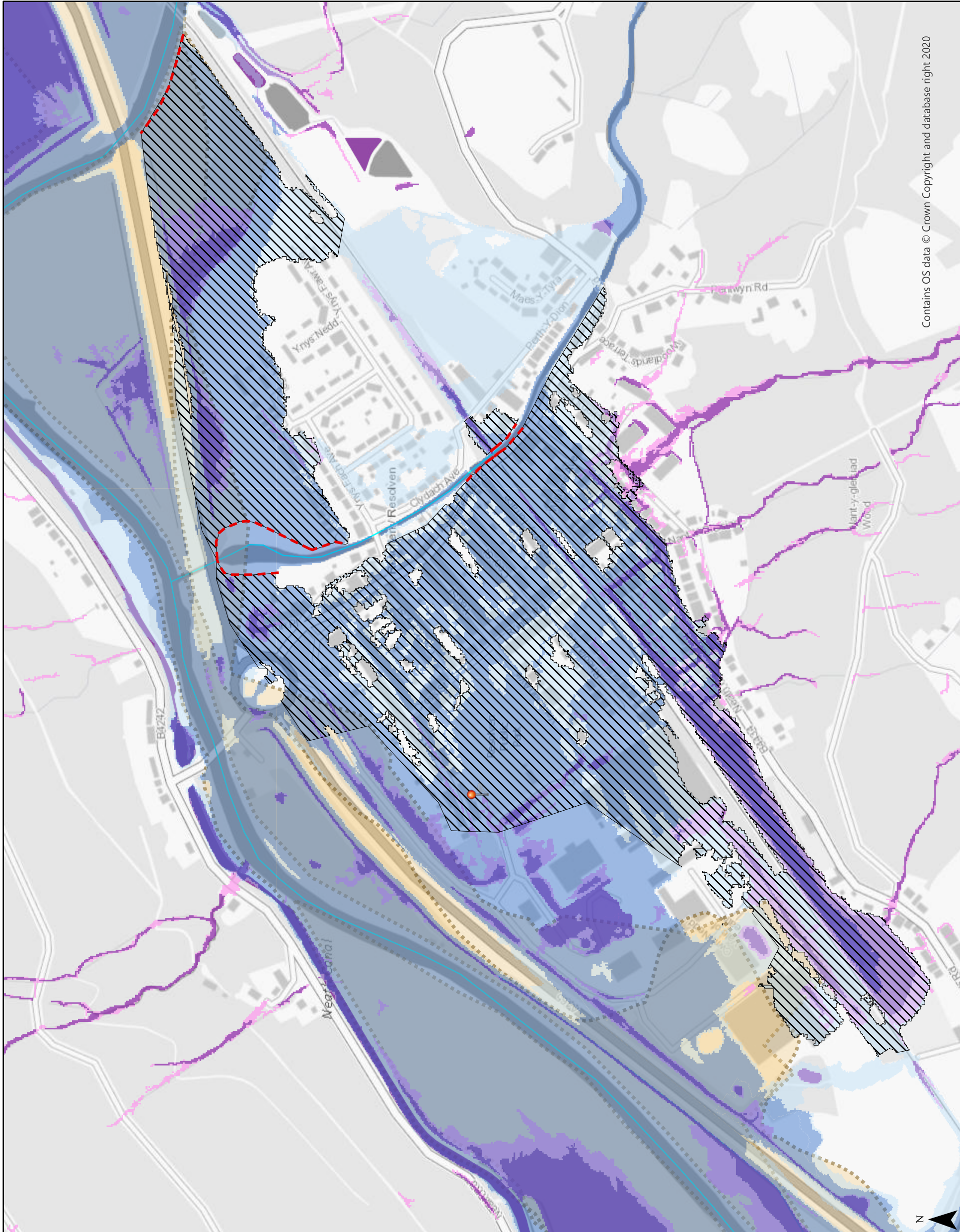
Flood Map for Planning - Detail
Resolven

Legend

- Flood Defence Locations
- TAN15 Defended Zones
- Rivers
- Sea
- Rivers and Sea
- Flood Zone 3
- Flood Zone 2
- Rivers
- Flood Zone 3
- Flood Zone 2
- Surface Water and Small Watercourses
- Flood Zone 3
- Flood Zone 2
- Recorded Flood Extents
- Main Rivers

Scale at A3: 1:5,000

Date: 13/08/2025



Disclaimer

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

0.2 0.1 0 0.2

km

British National Grid

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APPENDIX 3 – IMPERMEABLE AREAS DIAGRAMS



GENERAL NOTES

1. This drawing is to be read in conjunction with and checked against all other drawings, engineering details, specifications and any structural, geotechnical or other specialist document provided.
2. Any discrepancies within all relevant drawings are to be reported to QuadConsult Ltd immediately.
3. All dimensions and levels are in metres, U.N.O..
4. Do not scale from this drawing - use figured dimensions only.
5. This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.
6. Surface water drainage subject to S104 / SAB approval where appropriate with the relevant authority.
7. Foul Drainage subject to S104 approval with relevant water authority.
8. All private drainage to be installed in accordance with Part H of building regulations and the developers warranty provider.
9. The contractor is at risk if construction is progressed without relevant S104, S106, S278, S38, OWC etc agreement being in place with the relevant authorities.

KEY

 CATCHMENT - 3G PITCH (2,565m²)

Rev	Date	Description	By
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Dimensions to be verified on site.
This drawing should not be scaled. Use figured dimensions only
Any discrepancies should be referred to the Engineer prior to work being put in hand.
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Drawing Status				
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Designed by	Drawn by	Checked by	Date	Scales @ A3 size
BC	BC	ML	JUN 25	1:500
Drawing No				
25206 C - 002				A

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Client

SOUTH WALES
SPORTS GROUND

Project

RESOLVEN PARK 3G PITCH

Title

PROPOSED CATCHMENT PLAN

File name: 25206 C-002-Proposed Catchment Plan.dwg

APPENDIX 4 – OVERLAND FLOOD ROUTING

GENERAL NOTES

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KEY

 OVERLAND CONVEYANCE ARROWS

