

Housing Development | Glean Caoin, Borrisoleigh, Co. Tipperary

Stage 2 Flood Risk Assessment 27/07/2026



Will Rudd Davidson (Ireland)

South Point

Herbert House

Harmony Row

Grand Canal Dock

Dublin D02 H270

T 01 910 3278

E dublin@ruddconsult.com

www.ruddconsult.com



Project Information

Project title: Housing Development | Glean Caoin, Borrisoleigh, Co. Tipperary
Client: Tipperary County Council
Project no: G9900
Document Number: G9900-WRD-XX-XX-RP-C-30001_01

Document Control

Revision	Date	Description	Prepared By	Reviewed By
01	27/07/2026	First Draft	K Donlon	E Sheehy

Disclaimer:

© 2026 Will Rudd Davidson (Ireland). All Rights Reserved.

This document has been prepared by Will Rudd Davidson (Ireland) ("WRDi") for sole use of our client in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between WRDi and the Client. Any information provided by third parties and referred to herein has not been checked or verified by WRDi, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of WRDi

Contents

Executive Summary	0
1 Introduction	1
1.1 Background	1
1.2 Overview of the Site	1
1.3 Proposed Development	2
2 Flood Risk Management Guidance	4
2.1 The Planning System and Flood Risk Management Guidelines	4
2.2 The Flood Risk Management Climate Adaptation Plan	5
2.3 Tipperary County Development Plan (2022 – 2028)	6
2.4 Tipperary CDP 2022 – 2028 Consolidated Strategic Flood Risk Assessment	8
3 Initial Flood Risk Assessment	12
3.1 Past Flood Events	12
3.2 National Coastal Flood Hazard Mapping (NCFHM)	13
3.3 National Indicative Flood Mapping (NIFM)	14
3.4 Catchment Flood Risk Assessment and Management Study	15
3.5 OPW Drainage Districts and Arterial Drainage Schemes	17
3.6 Geological Survey Ireland Mapping	17
4 Detailed Flood Risk Assessment	21
4.1 Coastal Flooding	21
4.2 Fluvial Flooding	21
4.3 Pluvial Flooding	22
4.4 Groundwater Flooding	22

Appendices

Appendix A – Topographic Survey

Appendix B – Site Layout

Appendix C – CFRAM Mapping

Executive Summary

Will Rudds was appointed by Tipperary County Council to complete a Stage 2 Flood Risk Assessment (FRA) in support of a proposed residential development at Glean Caoin, Borrisoleigh, Co. Tipperary.

The report sets out the existing level of flood risk at the subject site. This report represents a Stage 2 Flood Risk Assessment as defined under the 'Planning System and Flood Risk Management Guidelines' (DEHLG/OPW, 2009).

The subject site is located approximately 300m north-west of Borrisoleigh town. The subject site is a greenfield site. It is bounded to the south by existing residential developments. The west of the subject site is bounded by an existing commercial development. The east of the subject site is bounded by agricultural land. The north of the subject site is bounded by an EPA delineated watercourse referred to as the Borrisoleigh Stream. The watercourse is known locally as the River Cromoge. This is the closest hydraulic feature to the subject site.

The subject site is considered to be primarily at risk of fluvial flooding from the Borrisoleigh Stream. The stream is included as part of the Suir CFRAM study. The results of the study show that a portion of the subject site is at risk of flooding.

The flood extents encroach roughly 18m into the northern boundary of the subject site. The proposed development does not include the construction of roads or properties within these areas. There is a minimum freeboard of 1.66m between the FFLs and the 1 in 1,000-year (0.1% AEP) flood level.

In order to future proof the development the subject site was assessed against the MRFS climate change scenario. The CFRAM MRFS do not encroach into the area where there is development proposed.

The proposed development is located in the correct flood zone, Flood Zone C, as outlined in the 'Planning System and Flood Risk Management Guidelines' (DEHLG/OPW, 2009). Therefore, no further Flood Risk Assessment at Level 3 is recommended.

1 Introduction

1.1 Background

Will Rudd's was appointed by Tipperary County Council to complete a Stage 2 Flood Risk Assessment (FRA) in support of a proposed residential development at Glean Caoin, Borrisoleigh, Co. Tipperary.

This Flood Risk Assessment report considers the level of flood risk from all potential sources of flooding and details the flood risk management proposals, which have been developed in conjunction with the design team and considering various environmental and stakeholder constraints.

The Planning System and Flood Risk Management (PSFRM) Guidelines categorise types of development into three vulnerability classes based on their sensitivity to flooding. The classification of vulnerability of different types of development in the PSFRM Guidelines, "residential developments" are categorised as "highly vulnerable" development and as such are considered appropriate in Flood Zone C (Low probability of flooding i.e., less than 0.1% AEP event).

The report sets out the existing level of flood risk at the subject site. This report represents a Stage 2 Flood Risk Assessment as defined under the 'Planning System and Flood Risk Management Guidelines' (DEHLG/OPW, 2009).

The purpose of this Stage 2 FRA report is to identify, quantify, and communicate the risks of flooding, if any, to the proposed development.

1.2 Overview of the Site

The subject site is located approximately 300m north-west of Borrisoleigh town. The subject site is a greenfield site. It is bounded to the south by existing residential developments. The west of the subject site is bounded by an existing commercial development. The east of the subject site is bounded by agricultural land. The north of the subject site is bounded by the Borrisoleigh Stream. It is an EPA delineated stream and is the closest hydraulic feature to the subject site.

The Borrisoleigh Stream flows in a south easterly direction away from the subject site. It flows for approximately 2km before discharging into the Cromogo River. The Cromogo River then continues to flow in a southerly direction before discharging into the River Clodiagh approximately 7.5km from the subject site. The River Clodiagh is a tributary of the River Suir.

The topography of the subject site naturally slopes from south to north towards the Borrisoleigh Stream. The existing ground levels within the subject site range from 100.53mOD in the north-eastern corner of the subject site. Existing ground levels in the centre of the subject site rise to 104.5mOD. The existing site entrance is at 105.5mOD.



Figure 1.1 – Location of Application Site

1.3 Proposed Development

The proposed development will consist of the construction of 28 residential units, access roads and all associated ancillary site works including landscaping and services.



Figure 1.2 – Proposed Site Layout

2 Flood Risk Management Guidance

This Stage 2 Flood Risk Assessment was carried out in accordance with the following flood risk management guidance documents:

- The Planning System and Flood Risk Management Guidelines for Planning Authorities
- Flood Risk Management Climate Change Sectoral Adaptation Plan
- Tipperary County Development Plan (2022 – 2028)
 - Consolidated Strategic Flood Risk Assessment

2.1 The Planning System and Flood Risk Management Guidelines

The Planning System and Flood Risk Management Guidelines for Planning Authorities (PSFRM Guidelines) were published in 2009 by the Office of Public Works (OPW) and Department of the Environment, Heritage, and Local Government (DoEHLG). Their aim is to ensure that flood risk is considered in development proposals and the assessment of planning applications.

2.1.1 Flood Zones and Vulnerability Classes

The PSFRM Guidelines discuss flood risk in terms of three flood zones (A, B, and C), which correspond to areas of high, medium, or low probability of flooding, respectively. The extents of each flood zone are based on the Annual Exceedance Probability (AEP) of various flood events.

The PSFRM Guidelines also categorise different types of development into three vulnerability classes based on their sensitivity to flooding. The guidelines classify residential properties as “highly vulnerable” and are therefore considered appropriate in Flood Zone C (less than 0.1% AEP).

Table 2.2 shows a decision matrix that indicates which types of development are appropriate in each flood zone and when the Justification Test (see Section 2.1.2) must be satisfied. The annual exceedance probabilities used to define each flood zone are also provided.

Zone	Description	Justification Test Requirement
Zone A High probability of flooding.	This zone defines areas with the highest risk of flooding from rivers (i.e. more than 1% probability or more than 1 in 100) and the coast (i.e. more than 0.5% probability or more than 1 in 200).	Required for Highly Vulnerable & Less Vulnerable Developments.
Zone B Moderate probability of flooding.	This zone defines areas with a moderate risk of flooding from rivers (i.e. 0.1% to 1% probability or between 1 in 100 and 1 in 1000) and the coast (i.e. 0.1% to 0.5% probability or between 1 in 200 and 1 in 1000).	Required for Highly Vulnerable Developments.
Zone C Low probability of flooding.	This zone defines areas with a low risk of flooding from rivers and the coast (i.e. less than 0.1% probability or less than 1 in 1000).	Not Required.

Table 2-1: Definition of Flood Zones

2.1.2 Justification Test

Any proposed development being considered in an inappropriate flood zone must satisfy the criteria of the Justification Test outlined in Figure 2.1 (taken from the PSFRM Guidelines).

Box 5.1 Justification Test for development management (to be submitted by the applicant)

When considering proposals for development, which may be vulnerable to flooding, and that would generally be inappropriate as set out in Table 3.2, the following criteria must be satisfied:

1. The subject lands have been zoned or otherwise designated for the particular use or form of development in an operative development plan, which has been adopted or varied taking account of these Guidelines.
2. The proposal has been subject to an appropriate flood risk assessment that demonstrates:
 - (i) The development proposed will not increase flood risk elsewhere and, if practicable, will reduce overall flood risk;
 - (ii) The development proposal includes measures to minimise flood risk to people, property, the economy and the environment as far as reasonably possible;
 - (iii) The development proposed includes measures to ensure that residual risks to the area and/or development can be managed to an acceptable level as regards the adequacy of existing flood protection measures or the design, implementation and funding of any future flood risk management measures and provisions for emergency services access; and
 - (iv) The development proposed addresses the above in a manner that is also compatible with the achievement of wider planning objectives in relation to development of good urban design and vibrant and active streetscapes.

The acceptability or otherwise of levels of residual risk should be made with consideration of the type and foreseen use of the development and the local development context.

Note: See section 5.27 in relation to major development on zoned lands where sequential approach has not been applied in the operative development plan.

Refer to section 5.28 in relation to minor and infill developments.

Figure 2.1 – Criteria of the Justification Test

2.2 The Flood Risk Management Climate Adaptation Plan

The Flood Risk Management Climate Change Sectoral Adaptation Plan was published in 2019 under the National Adaptation Framework and Climate Action Plan. This plan outlines the OPW's approach to climate change adaptation in terms of flood risk management.

This approach is based on a current understanding of the potential impacts of climate change on flooding and flood risk. Research has shown that climate change is likely to worsen flooding through more extreme rainfall patterns, more severe river flows, and rising mean sea levels.

To account for these changes, the Adaptation Plan presents two future flood risk scenarios to consider when assessing flood risk:

- Mid-Range Future Scenario (MRFS)
- High-End Future Scenario (HEFS)

Table 2.2 indicates the allowances that should be added to estimates of extreme rainfall depths, peak flood flows, and mean sea levels for the future scenarios.

Parameter	Mid-range Future Scenario (MRFS)	High-End Future Scenario (HEFS)
Extreme Rainfall Depths	+ 20%	+ 30%
Peak River Flood Flows	+ 20%	+ 30%
Mean Sea Level Rise	+ 0.5 m	+ 1 m

Table 2-2: Climate Change Adaptation Allowances for Future Flood Risk Scenarios

For the purpose of this flood risk assessment, the proposed development has been assessed against the Mid-Range Future Scenario as it represents a likely future scenario.

2.3 Tipperary County Development Plan (2022 – 2028)

The current Tipperary County Development Plan (CDP) provides a strategic framework for planning and sustainable development in county Tipperary for 2022-2028. The Tipperary County Development Plan 2022 – 2028 was adopted by the Elected Members of Tipperary County Council at a plenary meeting on the 11th July 2022.

Section 4 of the CDP outlines the Settlement Strategy for the county. The county settlement hierarchy outlines Borrisoleigh as a “Service Centre” within the county. Service Centres are defined within the development plan as “robust rural settlements that have a capacity to accommodate new residential growth, employment and enterprise and other appropriate uses. The Service Centres are being targeted for growth at an appropriate scale to service their local hinterlands, and to consolidate housing, local employment, public transport and a range of services.”

A Settlement Statement for each Service Centre is set out in Volume 2 of the CDP. The Specific Objective of the Council for Borrisoleigh are as follows:

SO1: To seek to ensure the delivery of sustainable neighbourhoods with an appropriate mix of house types, amenities and services as part of new residential development to cater for the housing needs of the community.

SO2: To support and facilitate the provision of infrastructure for, and development of, cluster housing schemes in accordance with the ‘Design and Best Practice Guidelines for Cluster Housing Schemes in Rural Villages’.

SO3: To encourage and support the development of local facilities and services to meet the needs of the local community.

SO4: To seek to develop a riverside walk and amenity area within the village centre.

SO5: To facilitate the expansion of existing local services and businesses where appropriate and to facilitate the provision of further local employment opportunities in accordance with the proper planning and sustainable development of the area.

SO6: To facilitate and encourage the redevelopment of vacant industrial factory sites within the village should be encouraged.

SO7: To facilitate the comprehensive consolidation of the village's retail core and, where appropriate, expansion to the backland areas of the village.

SO8: To support the preparation of an Enhancement Scheme for Borrisoleigh, which includes a focus on the Village Square, enhancement of entry points to the village and also definition of core area by way of paving, street lighting, street furniture etc, which include enhanced sustainable transport measures, subject to resource being available.

SO9: To facilitate the carrying out of streetscape enhancement works subject to resources being available.

SO10: To protect the designated Architectural Conservation Area and shall ensure the use of quality building materials and best conservation practice in relation to protected structures and buildings within the Architectural Conservation Area;

SO11: To ensure the protection of protected structures, historic buildings and buildings/structures of archaeological significance.

SO12: To support the expansion of public infrastructure within the village.

SO13: To ensure that new residential development protects existing wayleaves and provides appropriate buffer zones adjacent to public waste water infrastructure, having regard to the requirement and standards of the Environmental Protection Agency.

SO14: To require the submission of Flood Impact Statements, as appropriate, in respect of lands which are liable to flood.

The plan identifies that some lands within the village are prone to flooding. It is noted that any proposed developments to comply with "The Planning System and Flood Risk Management Guidelines for Planning Authorities (DEHLG, 2009) and any amendment thereof."

There is also a Land Zoning Map provided in this document. It outlines the proposed land use for the village. The subject site is zone for "New Residential". The proposed development complies with this zoning objective.

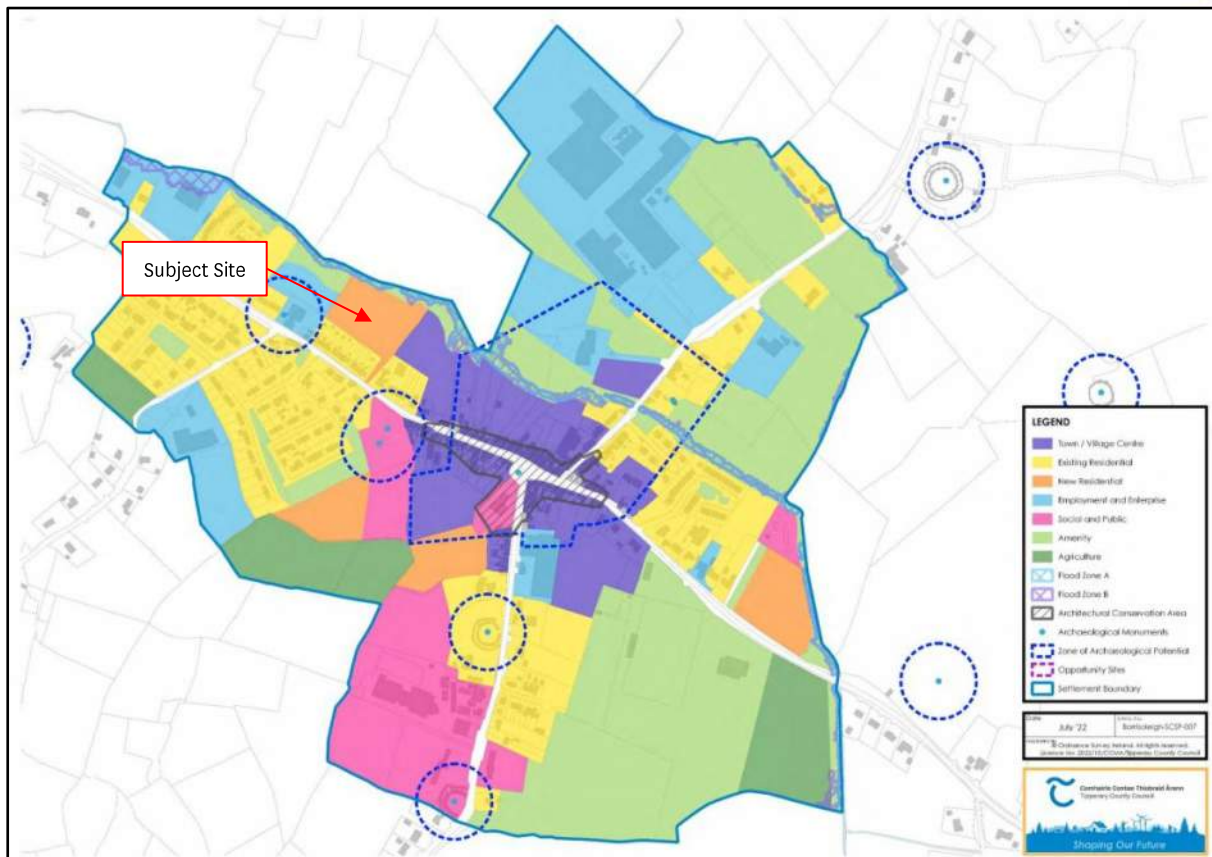


Figure 2.2 – Borrisoleigh Land Zoning Map

2.4 Tipperary CDP 2022 – 2028 Consolidated Strategic Flood Risk Assessment

Tipperary County Council prepared an appropriate level of Strategic Flood Risk Assessment (SFRA) in accordance with The Planning System and Flood Risk Management - Guidelines for Planning Authorities (Department of the Environment, Heritage and Local Government and Office of Public Works, 2009) and Department of the Environment, Community and Local Government Circular PL 2/2014 as part of the Tipperary CDP. The SFRA provides an assessment of flood risk and includes mapped boundaries for Flood Risk Zones.

The SFRA identified that there was a small portion of the subject site that is liable to fluvial flooding from the adjacent watercourse. There is no indication that the subject site is susceptible to any other form of flooding.

The SFRA prepared indicative Flood Zone Mapping for Borrisoleigh. The mapping showed that the vast majority of the subject site is located in Flood Zone C. There is a small portion of the subject site that is located adjacent to the watercourse that is located in Flood Zone A and B. Figure 2.7 below, outlines the flood zone mapping for the subject site.

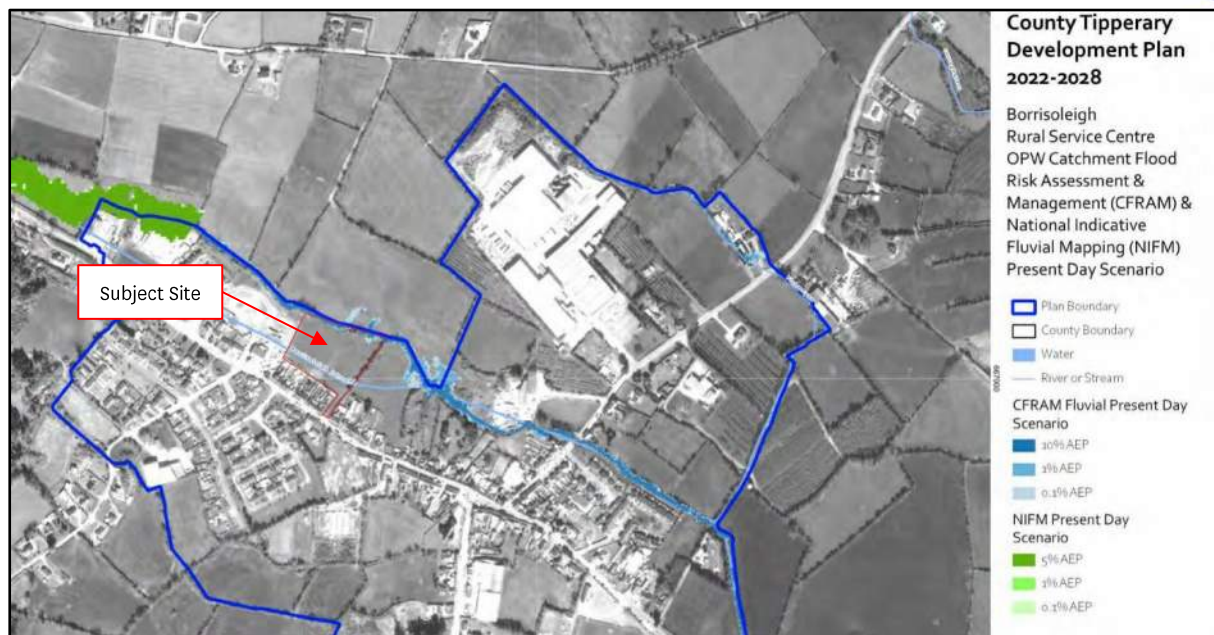


Figure 2.3 – Borrisoleigh Fluvial Flood Map (Current Scenario)

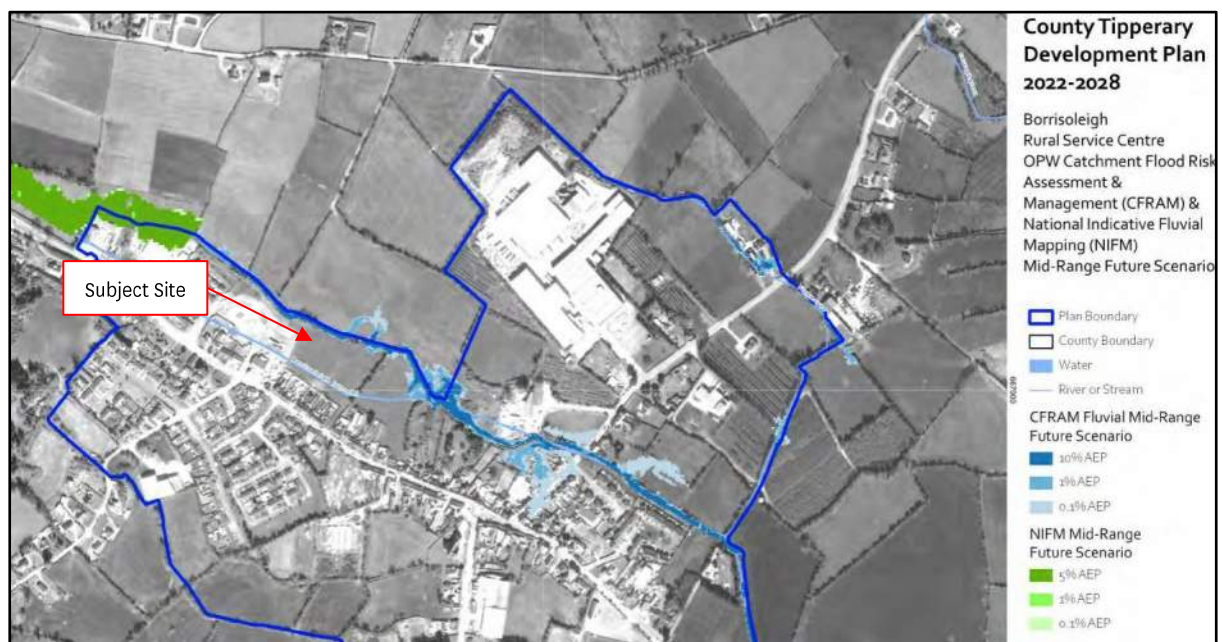


Figure 2.4 – Borrisoleigh Fluvial Flood Map (MRFS)



Figure 2.5 – Borrisoleigh Fluvial Flood Map (HEFS)



Figure 2.6 – Borrisoleigh GSI Historical Flood Data & Groundwater Predictive Modelling

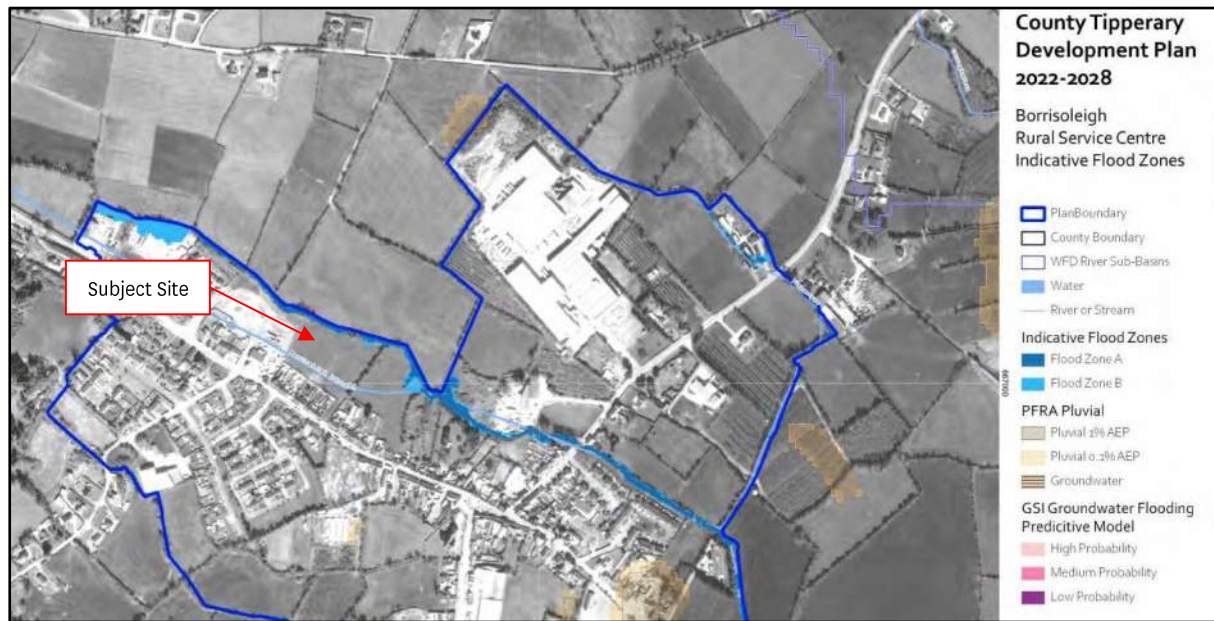


Figure 2.7 – Borrisoleigh Indicative Flood Zones

3 Initial Flood Risk Assessment

3.1 Past Flood Events

The Office of Public Works's (OPW's) National Flood Information Portal¹ provides past flood event mapping with records of flooding reports, meeting minutes, photos, and/or hydrometric data.

There is one past flood event in the vicinity of the subject site. It is a recurring flood event (Flood ID-3871). The details of the flood event are as follows:

- Flood Event: Cromoge Borrisoleigh Treatment Plant Recurring
- Record Type: Recurring
- Flood Source: River
- The flood report notes that the stream (Cromoge River) overflow causes floods at the sewage treatment plant annually.²

The recurring flood event is located approximately 0.6km downstream of the subject site. As the flood event is located away from the subject site, it is not envisaged that it will have any impact.

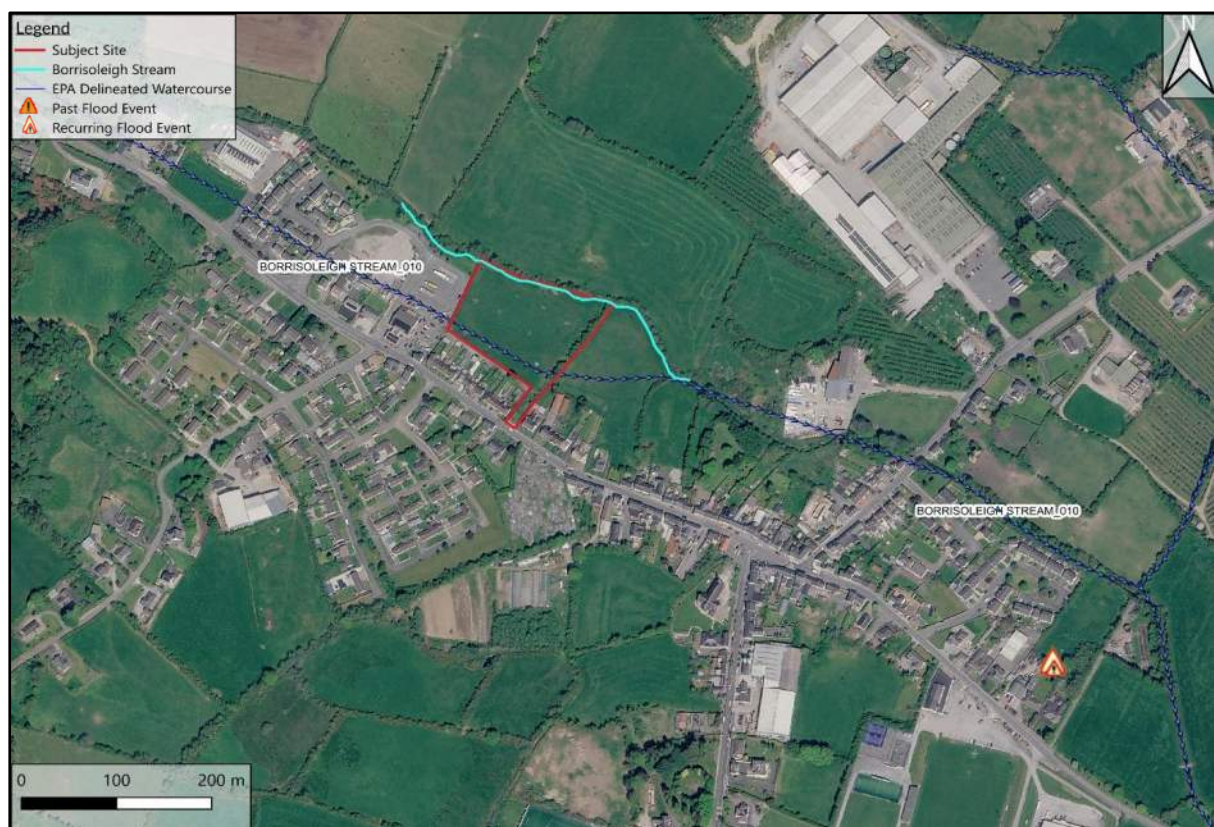


Figure 3.1 – OPW Past Flood Events

¹ floodinfo.ie

² https://static-floodinfo.s3-eu-west-1.amazonaws.com/media/reports/F310%20Data%20Collection/031%20Tipperary%20North%20County%20Council/004%20Minutes%20Verbal%20Report/tpn_mm_bm_0000002739.pdf

3.2 National Coastal Flood Hazard Mapping (NCFHM)

The National Coastal Flood Hazard Mapping (NCFHM) was completed in 2021. The aim of the project is to produce updated national scale coastal flood extent and depth maps for the 50%, 20%, 10%, 5%, 2%, 1%, 0.5% and 0.1% Annual Exceedance Probabilities (AEPs) for the present day scenario and for the Mid-Range Future Scenario (MRFS), High End Future Scenario (HEFS), High+ End Future Scenario (H+EFS) and High++ End Future Scenario (H++EFS) which represent a 0.5m, 1.0m, 1.5m and 2.0m increase in sea level respectively. The mapping is based on the extreme levels calculated in the Irish Coastal Wave and Water Level Modelling Study (ICWWS).

The Irish Coastal Wave and Water Level Modelling Study (ICWWS) was undertaken in 2018. The study provides an update to the Extreme Coastal Water Levels for the coastal of Ireland. The study provides an update to the water levels presented in the Irish Coastal Protection Strategy Study (ICPSS) undertaken between 2004 and 2013.³

Table 3-1 below outlines the extreme water levels at node S26 which is the closest ICWWS node to the subject site. The node is approximately 60km southwest of the subject site. Figure 3.1 below outlines the node location in relation to the subject site.

Return Period	Existing Scenario Water Level (mOD)	Mid-Range Future Scenario (MRFS) Water Level (mOD)
1 in 100-Year (1% AEP) Event	4.18	4.68
1 in 200-Year (0.5% AEP) Event	4.27	4.77
1 in 1,000-Year (0.1% AEP) Event	4.50	5.00

Table 3-1: ICWWS Modelled Extreme Water Levels

³Irish Coastal Wave and Water Level Modelling Study(ICWWS)
[Microsoft Word - IBE1505_ICWWS_Ph1_Rp01_F02.docx](#)

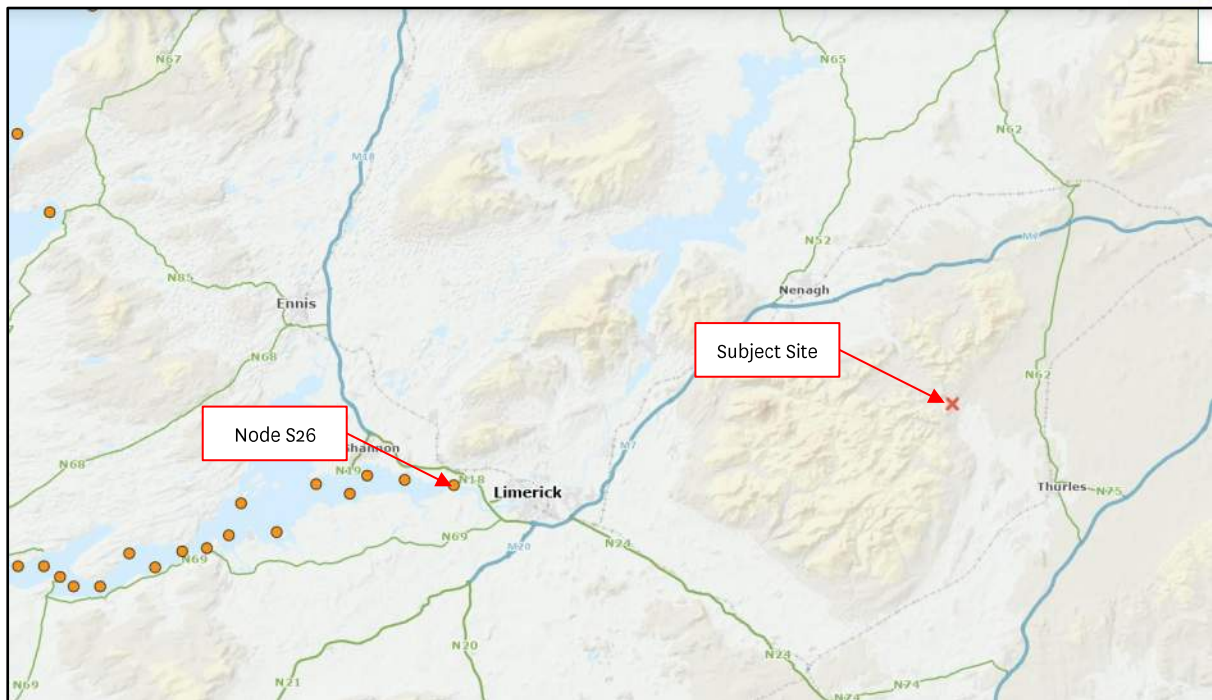


Figure 3.2 – ICWWS Node Location

3.3 National Indicative Fluvial Mapping (NIFM)

The National Indicative Fluvial Mapping (NIFM) provide an indication of areas that may flood during a flood of an estimated probability of occurring. The maps may be used in the Stage I Flood Risk Assessment (Flood Risk Identification) to identify areas where further assessment would be required if development is being considered within or adjacent to the flood extents shown on the maps. Similarly, the maps may be used to identify whether flood risk might be a relevant issue when considering a planning application, or when discussing a potential application at pre-planning stage. The mapping was finalised in December 2020.

Parts of the Borrisoleigh Stream are modelled as part of the NIFM study. The model shows that portions of the watercourse are susceptible to flooding during the 1 in 100-year and 1 in 1000-year flood events. The flood extents are located approximately 250m upstream of the subject site. The NIFM mapping does not extend to the subject site as this portion of the Borrisoleigh Stream is covered by the CFRAM study. The details of this are outlined in section 3.4 below.



Figure 3.3 – NIFM Extents

3.4 Catchment Flood Risk Assessment and Management Study

In 2015, the OPW produced flood maps as part of the Catchment Flood Risk Assessment and Management (CFRAM) Study. The flood extents in these maps are based on detailed modelling of Areas for Further Assessment identified by the National Preliminary Flood Risk Assessment.⁴

The Borrissleigh Stream is modelled as part of the Suir CFRAM Study (Unit of Management 16). It is referred to as the River Cromogue in CFRAM Hydraulic Report. The CFRAM mapping for the watercourse shows that the subject site is liable to flooding during the 1 in 100-year (1% AEP) and 1 in 1,000-year (0.1% AEP) flood events. The CFRAM flood extents are shown in Figure 3.3 below.

The CFRAM study also provides water levels as part of the assessment. The closest node to the subject site is node CROMO009129. The water level during the 1 in 100-year (1% AEP) and 1 in 1,000-year (0.1% AEP) flood events are 101.598mOD and 101.683mOD respectively. The CFRAM map for the subject site is included as Appendix C of this report.

⁴ https://www.floodinfo.ie/about_frm/

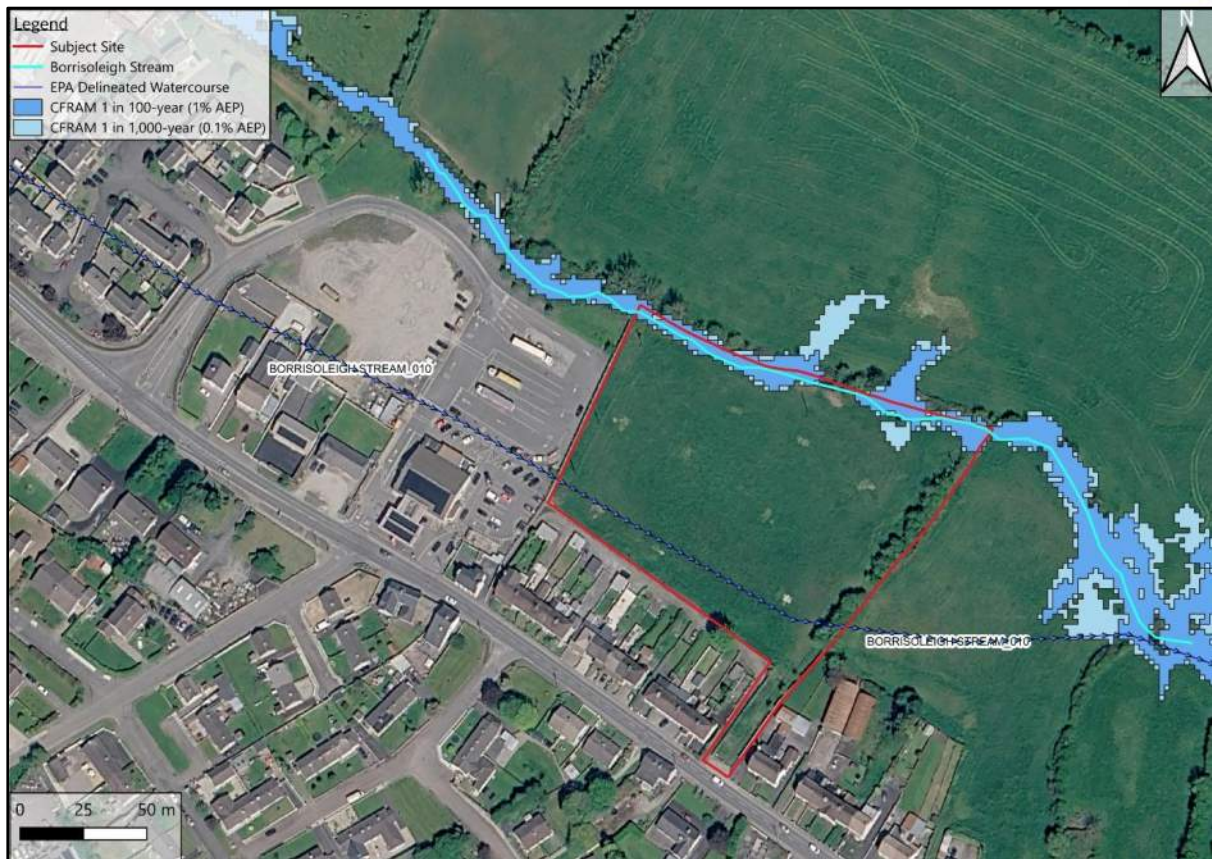


Figure 3.4 – CFRAM Current Scenario Extents

The CFRAM study also includes an allowance for climate change. The climate change event that is accounted for is the Mid-Range Future Scenario (MRFS). The MRFS allows for a 20% increase in river flow rates.

The CFRAM MRFS extents are outlined in Figure 3.4 below. The figure shows that there is a minimal increase in the flood extents within the subject site. The majority of the increase in extents occurs on the northern bank of the watercourse.



Figure 3.5 – CFRAM Current Scenario Extents

3.5 OPW Drainage Districts and Arterial Drainage Schemes

The OPW Drainage Districts were carried out by the commissioners of Public Works under a number of drainage and navigation acts from 1842 to the 1930s to improve land for agriculture and to mitigate flooding.⁵ The local authorities are charged with the responsibility to maintain Drainage Districts.

Benefited lands are areas that were previously subject to poor drainage and/or flooding but that have benefited from the implementation of Arterial Drainage Schemes carried out under the Arterial Drainage Act 1945.

The subject site has not benefited from any arterial drainage scheme and is not located in a Drainage District.

3.6 Geological Survey Ireland (GSI) Mapping

GSI Groundwater Flooding Probability Maps for the subject site were reviewed. There are no historic groundwater flood extents noted in the vicinity of the subject site. The closest recorded groundwater flood event is located approximately 23km north-west of the subject site.

⁵ www.floodinfo.ie

GSI also provide SAR Seasonal Flood Maps. These are historical, satellite-derived maps and observe how seasonal rainfall impacts maximum standing water extents over time. The SAR maps give an indication of potential pluvial flooding.

The closest SAR Seasonal Flood extents are located 1.2km southeast of the subject site. Figure 3.5 outlines the SAR Seasonal Flood extents in the vicinity of the subject site.



Figure 3.7 – GSI SAR Seasonal Flood Extents Map

GSI subsurface mapping of karst features in the area show that there is no Karst Features located in the vicinity of the subject site. The closest Karst Feature to the subject site is a borehole which is located approximately 7.5km southeast. Figure 3.6 outlines the Karst Features in the area.



Figure 3.8 – GSI Karst Features

4 Detailed Flood Risk Assessment

With reference to the PSFRM guidelines, the proposed residential development is considered 'highly vulnerable'. Therefore, residential properties are considered appropriate in Flood Zone C (Low probability of flooding i.e., less than 0.1% AEP).

4.1 Coastal Flooding

The subject site is located approximately 60km inland. The nearest ICWWS node estimate the 1 in 1000-year (0.1% AEP) MRFS water level to be 5.00mOD. The minimum ground levels on the subject site are 100.53mOD.

4.2 Fluvial Flooding

The CFRAM mapping for the watercourse shows that the subject site is liable to flooding during the 1 in 100-year (1% AEP) and 1 in 1,000-year (0.1% AEP) flood events. This would place portions of the subject site in Flood Zone A and B.

The flood extents are along the northern boundary of the subject site where the river overtops its' banks. The flood extents encroach no more than 20m onto the subject site. The extents are localised to areas of low topography along the banks of the river. A review of the proposed site layout shows that there is no development proposed in the areas of flood risk.

The CFRAM study also provides water levels as part of the assessment. The closest node to the subject site is node CROM0009129. The water level during the 1 in 100-year (1% AEP) and 1 in 1,000-year (0.1% AEP) flood events are 101.598mOD and 101.683mOD respectively. These levels are significantly below the proposed FFLs of the development which range from 103.345mOD to 104.45mOD. There is a minimum freeboard of 1.66m between the FFLs and the 1 in 1,000-year (0.1% AEP) flood level. The proposed roads levels are also above the estimated flood levels. The lowest proposed road level is 101.75mOD.

In order to future proof the development the subject site was assessed against the MRFS climate change scenario. The CFRAM MRFS mapping is shown in Figure 4.1 below. This shows that the proposed development will not be impacted by the modelled 1 in 100-year (1% AEP) and 1 in 1,000-year (0.1% AEP) MRFS flood events.



Figure 4.1 – CFram MRFS with the proposed Site Layout

4.3 Pluvial Flooding

Surface water arising on the proposed residential development will be managed by a dedicated stormwater drainage system in accordance with Sustainable Drainage Systems (SuDS) principles, limiting discharge from the site to greenfield runoff rates.

The landscaping and topography of the developed site will provide safe exceedance flow paths and prevent surface water ponding to minimise residual risks associated with an extreme flood event or a scenario where the stormwater drainage system becomes blocked.

Therefore, it is estimated that risk of pluvial flooding associated with the proposed development is minimal.

4.4 Groundwater Flooding

Based on a review of Geological Survey Ireland (GSI) subsurface mapping of karst features and predicted groundwater flooding in the area, there is no evidence to suggest liability to groundwater flooding at the subject site.

5 Conclusion

Will Rudd's was appointed by Tipperary County Council to complete a Stage 2 Flood Risk Assessment (FRA) in support of a proposed residential development at Glean Caoin, Borrisoleigh, Co. Tipperary.

With reference to the PSFRM guidelines, the proposed residential development is considered 'highly vulnerable'. Therefore, residential properties are considered appropriate in Flood Zone C (Low probability of flooding i.e., less than 0.1% AEP).

Coastal Flooding

The subject site is located approximately 60km inland. The nearest ICWWS node estimate the 1 in 1000-year (0.1% AEP) MRFS water level to be 5.00mOD. The minimum ground levels on the subject site are 100.53mOD.

Therefore, it is estimated that risk of coastal flooding associated with the proposed development is minimal.

Fluvial Flooding

The subject site is liable to fluvial flooding from the adjacent watercourse. The flood extents encroach roughly 20m into the northern boundary of the subject site. The proposed development does not include the construction of roads or properties within these areas. There is a minimum freeboard of 1.66m between the FFLs and the 1 in 1,000-year (0.1% AEP) flood level.

In order to future proof the development the subject site was assessed against the MRFS climate change scenario. The CFRAM MRFS do not encroach into the area where there is development proposed.

Therefore, it is estimated that risk of fluvial flooding associated with the proposed development is minimal.

Pluvial Flooding

There is no evidence of any pluvial flooding on the subject site based on available records.

Surface water arising on the proposed mixed-use development will be managed by a dedicated stormwater drainage system in accordance with Sustainable Drainage Systems (SuDS) principles, limiting discharge from the site to greenfield runoff rates.

The landscaping and topography of the developed site will provide safe exceedance flow paths and prevent surface water ponding to minimise residual risks associated with an extreme flood event or a scenario where the stormwater drainage system becomes blocked.

Therefore, it is estimated that risk of pluvial flooding associated with the proposed development is minimal.



Groundwater Flooding

There is no evidence to suggest groundwater as a potential source of flood risk to the proposed subject site.

Based on the results of this flood risk assessment, it is estimated that there is potential risk of flooding to the subject site along the northern boundary. The flood risk is limited to the low-lying areas adjacent to the watercourse. The proposed site layout and design levels mitigate the risk of flooding to critical infrastructure on the site such as properties or access roads.



Appendix A – Topographic Survey



- NOTES:
1. All levels are relative to Ordnance Datum
 2. 50m sq grid relative to Irish Transverse Mercator
 3. Contours are at 0.25m Intervals

SYMBOL LEGEND			
○ 17	Telecom Pole	○ 17	ESB Pole
○ 18	Long Standard	○ 18	Traffic Light
○ 19	Sign	○ 19	Traffic Sign
○ 20	Corner	○ 20	Island
○ 21	Stop	○ 21	Post
○ 22	Light	○ 22	Bin
○ 23	Gas Box	○ 23	Bin
○ 24	Telecom Duct	○ 24	ESB Duct
○ 25	Telecom Box	○ 25	ESB Box
○ 26	Fire Hydrant	○ 26	Earth Rod
○ 27	Manhole & Cover Level	○ 27	Armstrong Junction
○ 28	Gully	○ 28	Drain
○ 29	Tree	○ 29	Bush/Shrub
○ 30	Gate	○ 30	Pipe
○ 31	Air Valve	○ 31	Shut Valve
○ 32	Water Valve	○ 32	Water Meter
○ 33	Valve	○ 33	Spot Height
○ 34	Ridge Height	○ 34	Eaves Height
○ 35	Finished Floor Level	○ 35	Road Height
○ 36	Coping Height	○ 36	Boundary Height

LINE TYPE LEGEND		Building
——	Footpath	Pinch
——	Concrete Edge	Slip
——	Fence	Mound
——	Centerline of Trees	Hedge
——	Drain/River	Flower Bed
——	ESB Line	Telecom Line
——	Kent	Road
——	Contour Major	Contour Minor
——	Bottom of Bank	Top of Bank
——	Yellow Line	White Line

REVISIONS	
No.	Description

METROSCAN
UTILITY LOCATING LTD.
Address: Carrick Road Carrick, Ederney Co. Kildare R45W3D32
Email: info@metroscan.ie
Website: www.metroscan.ie

Client:
Tipperary County Council

Professional:
Metroscan

Project Title:
Topographical Survey of Site Located at
Borrisoleigh, Co. Tipperary

Drawn: J. & Dwg No: 25-349-02
Scale: 1:250 Date: 22-08-25



Appendix B – Site Layout



1

Site Plan

1: 500

Approx-Site Area outline in red = 1.42Ha

Site Building/site Subject of this planning Application shown Thus

Overall Council Site Shown Thus

All structure to Engineers detail and specification

BAT BOX - LEGEND

B

Suggested Placement of Bat Boxes as per Bat Specialist documentation. Refer to Bat Report for further information.

FINISHES LEGEND

Denotes Road swale drain. Refer to engineers documentation for further detail , this Denotes proposed swale with collector pipe and chamber

Denotes Proposed Carriageway - Tarmac Finish (refer to engineers documentation for further detail) Allow for thermoplastic line markings

Denotes proposed non-permeable block sett paving surface (refer to engineers documentation for further detail)

Denotes proposed block sett paving surface (refer to engineers documentation for further detail)

Denotes proposed Concrete & kerbing to perimeter footpaths . All laid to falls. Concrete hard standing to heat pumps & bin storage. All to engineers details and specifications.

Denotes Proposed selected concrete paving slabs

Denotes Proposed Buff - , yellow coloured blister paving & dropped kerbs used at uncontrolled crossings. (Installation to engineers detail and specification) Locations to be agreed

Denotes proposed Grass Area

Denotes proposed new planting along entire river bank of Willow grass plants and Alder.

Root Barrier - Root barrier to be provided to a depth of 600mm.

Denotes Proprietary Vertical sign post to identify accessible parking

Dotted line indicates 5m buffer zone between river and site

General Site Layout Notes:

Refer to Civil Engineers documentation for all proposed site levels including details on extensive ground works

Refer to Civil Engineers documentation for all proposed surface & foul water drainage

Refer to Civil Engineers documentation for details on proposed drainage system

Refer to Civil Engineers documentation for details on proposed footpaths/dropped kerbs and tactile surfaces where required

Refer to Structural Engineers documentation for details on all proposed structural elements.

Refer to Structural Engineers documentation for details on all foundations to proposed boundary wall/fences

Refer to M&E Engineers plan and documents for site lighting plan.

Refer to M&E Engineers documentation for details on removal of existing overhead cables.

Refer to the following Drawing for existing topographical and GRP survey.

Topo- Metroscan_25_340_Borrisoleigh_Co_Tipperary_2D (File Contains 2 sheets)

GRP-MUL2143_Tipperary coco_Borrisoleigh_Rev1 (File contains 4 sheets)

Refer to dwelling general arrangement drawings for information on individual Building types.

TREE LEGEND

Denotes existing trees as found on site to be retained and pruned

Denotes New tree

Denotes New Hedge / shrubs

BAT BOX - LEGEND

B

Suggested Placement of Bat Boxes as per Bat Specialist documentation. Refer to Bat Report for further information.

GENERAL NOTES:

A. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL DRAWINGS, THE SPECIFICATION, AND ALL RELEVANT STANDARD DETAIL DRAWINGS.

B. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS TOGETHER WITH THE SPECIFICATIONS AND SCHEDULES.

C. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS ONLY.

D. CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE SETTING OUT, COMMENCING WORK, OR PRODUCING ANY SHOP DRAWINGS.

Unit Type Key

1 B

1 B

Blocks A (1 Bed 2 Person units)
Unit No. 1 & 2 (Ground Floor)
Units No. 3 & 4 (First Floor)

3 B

2 B

3 B

Blocks B, C, D
Block B Units 5, 6, & 7,
Block C Units 8, 9, & 10,
Block D Units 11, 12 & 13

4 B

4 B

Block E (4 Bed 2 Person)
Units 14 & 15

2 B

Block F
Units 16

1 B

1 B

Block G - (1 Bed 2 Person units)
Unit No. 17 & 18 (Ground Floor)
Units No. 19 & 20 (First Floor)

1 B

1 B

Block H (1 Bed 2 Person units)
Unit No. 21, 22, 23, 24, 25, 26, 27
& 28 (Single Storey)

2 Dwelling Legend

nts

P03	General update to site plan. The site by repositioning it 3m north into the site to create the 6m way-leave Way-leave walled on both sides (2m high) and include an access gate. The number of dwellings has been reduced from 29 to 28 by the removal of a 2 bed unit from block F.	tSb	tSb	01.05.26
P03	Site central court removed including double gates. New back garden layouts formed. Boundary walls surrounding central court dwellings updated. Wall type G removed (from 3621-eml-ZZ-ZZ-DR-A-0016) Courtyard gate removed. (from 3621-eml-ZZ-ZZ-DR-A-0017) New proposed east boundary fence/gate, ie Wall Type J added.	tSb	tSb	03/26
P02	Site central court updated to include 6 No. UD Units	tSb	tSb	03/26
Rev	Description	By	Ckd	Date

eml

ARCHITECTS

20 Cruises Street
Limerick
V94 R6P9
Ireland
(Registered Office)

37 Fitzwilliam Pl.
Dublin 2
D02 YT52
Ireland
(01) 312 249
limerick@eml.ie
dublin@eml.ie
www.eml.ie

eml Job No.

3621

Job Name

Housing Development at
Glean Caoin, Borrisoleigh Co. Tipperary

Client

Tipperary County Council

Sheet Title

General Arrangement Drawings
Site Plan - (Larger Scale)

Stage

Planning

Suitability

S1

Date

22/07/2025

Scale @ A1

1:500

Drawn by

tSb

Checked by

tSb

Drawing No.

3621-EML-ZZ-ZZ-DR- A-0001

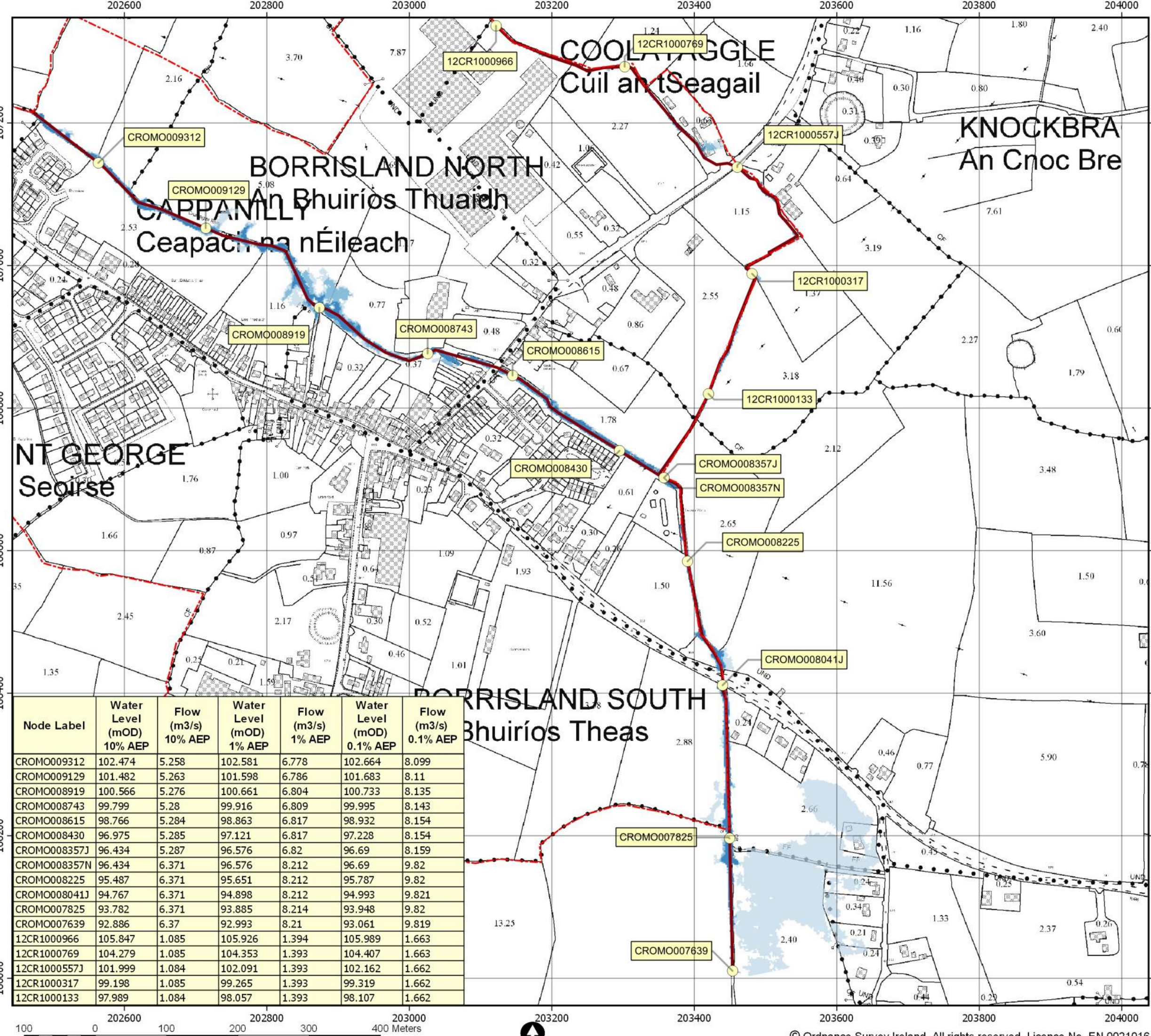
Rev

P04

Project - Originator - Volume - Level - Form - Role - Number



Appendix C – CFRAM Mapping



Node Label	Water Level (mOD) 10% AEP	Flow (m3/s) 10% AEP	Water Level (mOD) 1% AEP	Flow (m3/s) 1% AEP	Water Level (mOD) 0.1% AEP	Flow (m3/s) 0.1% AEP
CROMO009312	102.474	5.258	102.581	6.778	102.664	8.099
CROMO009129	101.482	5.263	101.598	6.786	101.683	8.11
CROMO008919	100.566	5.276	100.661	6.804	100.733	8.135
CROMO008743	99.799	5.28	99.916	6.809	99.995	8.143
CROMO008615	98.766	5.284	98.863	6.817	98.932	8.154
CROMO008430	96.975	5.285	97.121	6.817	97.228	8.154
CROMO008357J	96.434	5.287	96.576	6.82	96.69	8.159
CROMO008357N	96.434	6.371	96.576	8.212	96.69	9.82
CROMO008225	95.487	6.371	95.651	8.212	95.787	9.82
CROMO008041J	94.767	6.371	94.898	8.212	94.993	9.821
CROMO007825	93.782	6.371	93.885	8.214	93.948	9.82
CROMO007639	92.886	6.37	92.993	8.21	93.061	9.819
12CR1000966	105.847	1.085	105.926	1.394	105.989	1.663
12CR1000769	104.279	1.085	104.353	1.393	104.407	1.663
12CR1000557J	101.999	1.084	102.091	1.393	102.162	1.662
12CR1000317	99.198	1.085	99.265	1.393	99.319	1.662
12CR1000133	97.989	1.084	98.057	1.393	98.107	1.662

Location Plan:

LEGEND

- AFA Boundary
- Defended Area
- Modelled River Centreline
- Node Point
- 10% AEP Fluvial Extent (High Risk)
- 1% AEP Fluvial Extent (Medium Risk)
- 0.1% AEP Fluvial Extent (Low Risk)
- Flood Defence - Embankment
- Flood Defence - Wall
- Gate
- Node Label
- Standard of Protection of Flood Defence

IMPORTANT USER NOTE:

THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

The Office of Public Works
Jonathan Swift Street
Trim
Co. Meath

Project:

SUIR CFram STUDY

Map:

BORRISOLEIGH
FLUVIAL FLOOD EXTENT MAP

Map Type:	EXTENT		
Source:	FLUVIAL		
Map Area:	HPW		
Scenario:	CURRENT		
Drawn by:	NMC	Date:	Sep - 2016
Checked by:	IH	Date:	Sep - 2016
Approved by:	GG	Date:	Sep - 2016

Map No.: O16BOR_EXFCD_F0_07

Revision: F0

Map Scale: 1:5,000 Plot Scale: 1:1 @ A3