Carrickmines Shanganagh River
Flood Relief Scheme

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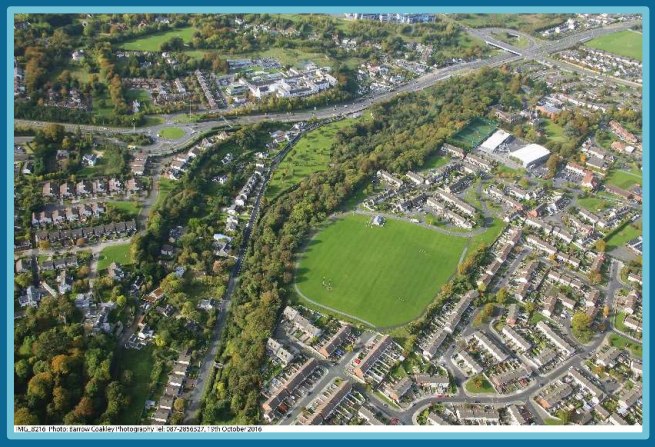
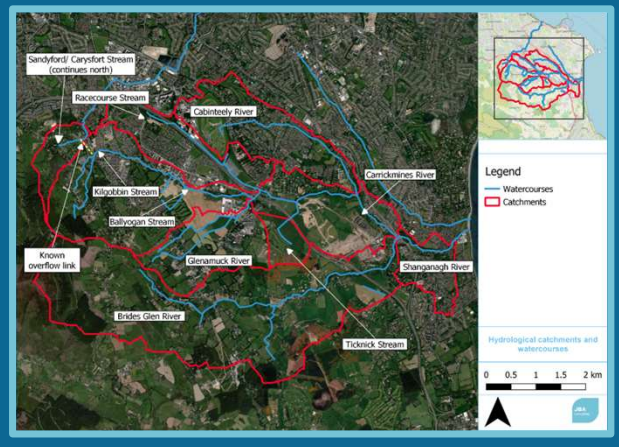
PUBLIC ENGAGEMENT EVENT #1





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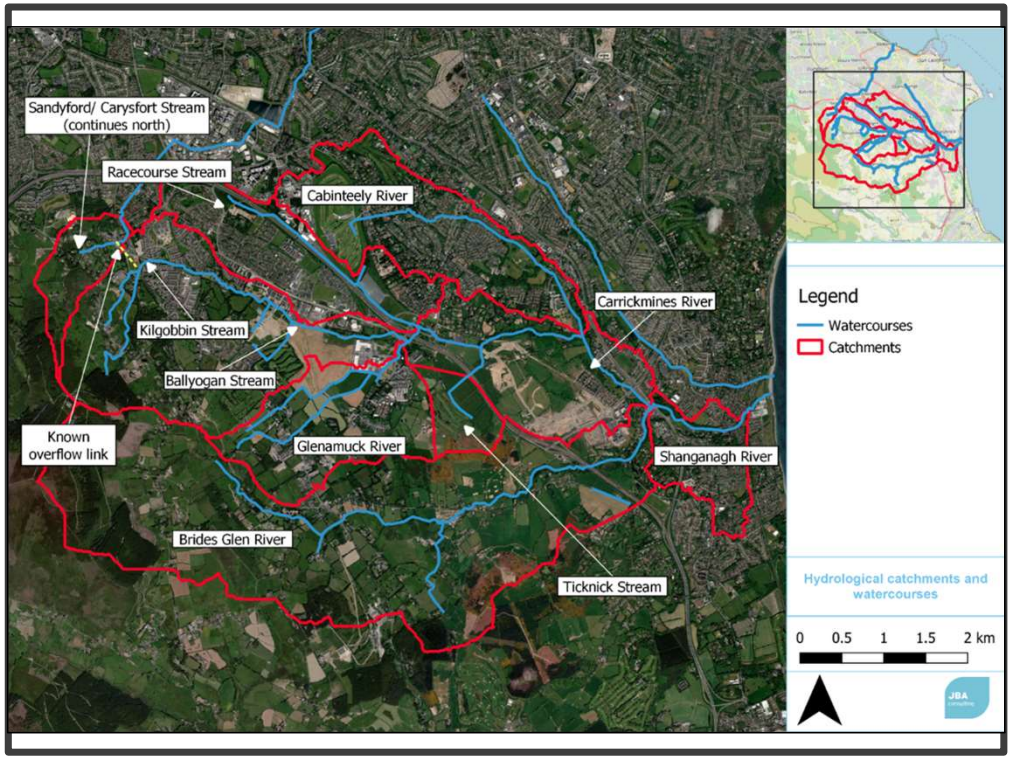
Flood Relief Scheme

Introduction



- There is a history of property flooding along the Carrickmines Shanganagh river system.
- The aim of the scheme is to reduce flood risk to the community in the Carrickmines Shanganagh catchment.
- We will be designing and constructing a range of flood measures to do this.
- The scheme commenced in August 2020.
- The main work on site is anticipated to commence in 2023 and be completed by 2025.
- This is our first public engagement event.

Project Team

- Dún Laoghaire-Rathdown County Council (DLRCC)
- Office of Public Works (OPW)
- JBA Consulting
- J.B. Barry and Partners

- Dún Laoghaire-Rathdown County Council has appointed the joint venture team of JBA Consulting and JB Barry to assess, develop, design and manage the delivery of a sustainable flood relief scheme for the Carrickmines Shanganagh catchment.
- The Project Team are currently delivering the neighbouring Deansgrange Stream Flood Relief Scheme and have an in-depth knowledge of the issues and constraints in the locality.

History of the Scheme

- The Eastern Catchment Flood Risk Assessment and Management (CFRAM) was a study commissioned by OPW to identify areas at high risk of flooding.
- Loughlinstown, and the Carrickmines-Shanganagh catchment within it, was identified as an area vulnerable to flooding.
- Some possible options were identified. A project level development was proposed, and assessment of a Flood Risk Scheme for the zone was required.
- The current commission is to provide a much more detailed, comprehensive and specific flood model of the Carrickmines Shanganagh catchment than provided by the ECFRAM.

Stages of the Scheme

Stage	Statutory Processes
I	Scheme Development
	Constraints Study
	Screening for Appropriate Assessment
	Initial Consultation with Stakeholders
	Scoping for Environmental Impact Assessment
	Initial Public Consultation
	Preparation of Environmental Assessment of Options Report
	Public Consultation on Preferred Scheme
	Preparation of Appropriate Assessment
	Environmental Impact Assessment Report for Preferred Option
II	Statutory Public Exhibition / Planning
III	Detailed Design and Tender
IV	Construction
V	Handover to Client

Specific Studies

- Data gathering and review
- Site walkover
- Ecological assessments
- Topographic surveys
- Culvert surveys
- Geotechnical surveys
- Hydrological assessment and hydraulic modelling
- Development of flood management options
- Cost Benefit Assessment (CBA)
- Multi-Criteria Analysis (MCA)

- There are a number of stages involved in the completion of a flood relief construction project.
- There are five phases of work. Progression to each stage relies on a successful outcome of the previous stage.
- We are at the Stage I of this project. We have completed some of the design work and are now ready to engage with the public.

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Programme

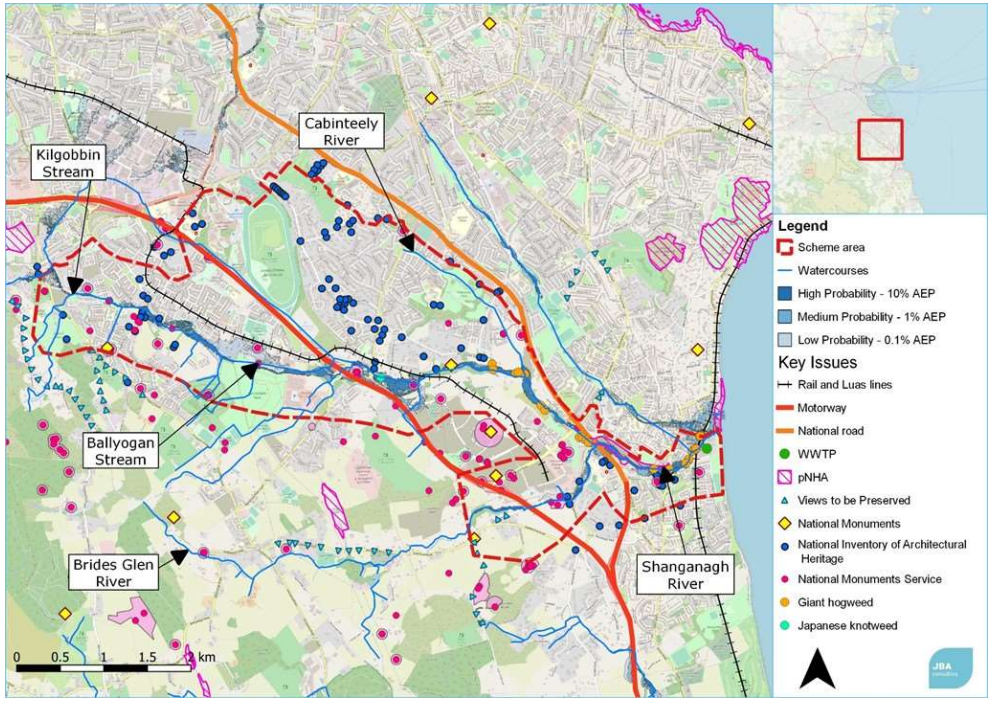
- The programme outlines some of the key steps involved in bringing the project from inception to having 'diggers on site'.
- Stakeholders and the project website will be kept up to date with any changes as the scheme progresses.

Activity	2020		2021		2022		2023		2024		2025	
Assemble all the available data												
Environmental Constraints Study												
Site Surveys and Investigation												
Hydrological Analysis and Hydraulic Modelling												
Options Development												
Ecological and Environmental Assessments												
Preparation of planning submission												
Planning Application												
Detailed Design												
Tender Process												
Construction Works												

Key: Ongoing/completed design activities; Future design activities; Construction Works

Project Constraints Identified

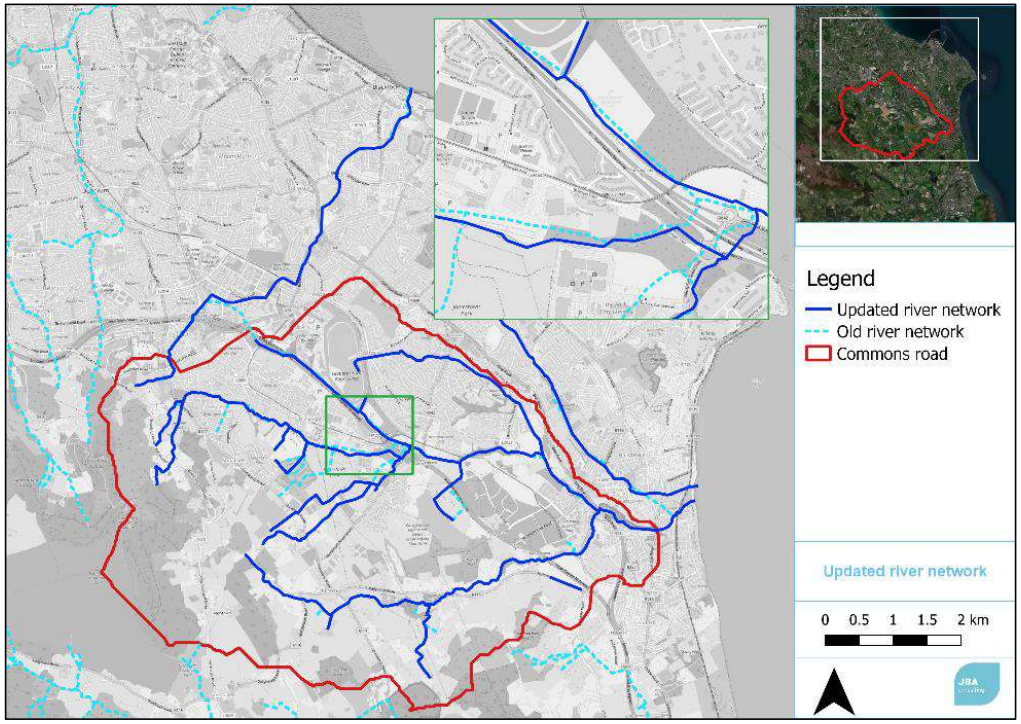
- A Project Constraints report has been prepared to identify any limitations to the scheme caused by the following elements: human beings, material assets, watercourses, biodiversity, soils and geology, landscape and visual amenity, cultural heritage, air and noise.
- Our flood mitigation solution will consider all these constraints and provide the required level of protection while preserving the landscape character of the area, not harming local biodiversity and mitigating other negative impacts.



Site Surveys Completed

- A flow monitoring survey was undertaken during Spring 2021 to record water levels and flows in certain streams and culverts in the catchment. This information was used to better understand how water flows along the catchment and to develop the flood model.
- A channel and threshold survey was completed in June. Key catchment features and property levels were assessed, and the information will be used for an improved representation of the flood extents and determining at-risk properties.
- A hydromorphology assessment was carried out in Spring and Summer 2021 to capture the river's characteristics and geometry. This will help identify how the proposed flood relief measures can improve the river catchment.

Flood Model Updates



- The hydraulic model has been updated to reflect the detailed surveys recently undertaken and recent changes within the catchment.
- The key areas at risk of flooding are the following:
  - Environs of Commons Rd
  - Brides Glen Rd
  - Commercial properties on the N11, near Cherrywood Road
  - Glenamuck Rd North
  - Ballyogan Road

Key Challenges

The flood modelling has identified key modelling challenges:

- The mix of urban and rural, elevated lands in the catchment.
- Impact of M50 on the flow in the lower reaches.
- Determination of the flow volume and time for each of the multiple rivers and streams across the catchment.
- Management of runoff from new developments


High Flows on Commons Road


Shanganagh River mouth


Shanganagh River – Cherrywood Gauge

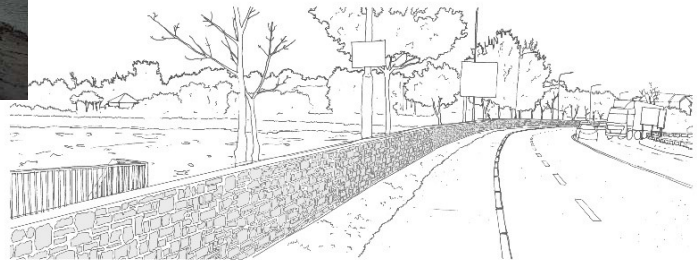

Flood damages at Commons Rd

Flood Risk Management Options

- Now that we have gathered extensive data and updated the flood model, we are assessing measures that can mitigate the flood risks within the catchment.
- The Flood Relief Scheme will consist of one or a combination of flood risk management measures.
- The preferred scheme will be identified by balancing the economic, social, cultural heritage and environmental aspects of each of the options.
- As a result of the improved modelling we have focused on the following measures, but we are also looking for your input to identify other potential options.

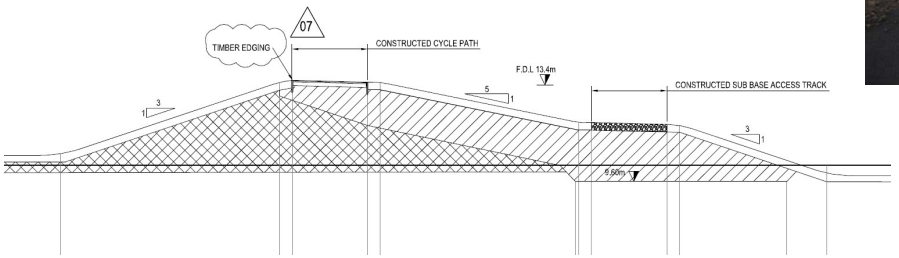
- Flood management measures that we are initially considering include:
  - Flood embankments
  - Flood walls
  - Raised road and footpath levels
  - Flood storage
  - Landscaped ground levels
  - Land Use Management
  - Management of runoff from new developments
  - Individual property protection
  - Management of debris and screen management
  - Overland flow paths for excess flows
  - Culvert upsizing
  - Channel conveyance improvement

Examples of Flood Walls



Examples of Flood Embankments

- Embankments are usually made of earth and have a clay core to prevent water seeping through.
- They need more space than a flood wall
- There are better opportunities to integrate them into the surrounding landscape.



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Have your Say

- The objective of this scheme is to find a solution to flooding along the Carrickmines Shanganagh River, which is beneficial to residents and stakeholders in the area.
- We want to listen to the views of those who will be living and working in the Carrickmines Shanganagh catchment, and others who have an interest in the long-term plans.
- Questionnaire forms are available and can be completed online or downloaded and returned at a later date.
- We will hold further consultation days as the project progresses and you will be given the chance to comment again as the scheme develops.
- The next consultation will be in the summer of 2022, when we will have developed outline options for the defences and flood management that we will present to you.
- You can find out more about the project in the following places:
  - www.csfrs.ie
  - email info@csfrs.ie
  - Phone: 01 485 1400

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