WELCOME

The Wexford Town & Environs Flood Relief Scheme aims to improve the standard of flood protection for areas of risk to protect against the 0.5% Annual Exceedance Probability (AEP) (1 in 200 year) Coastal flood event and 1% AEP (1 in 100 year) Fluvial flood event.

The project will be implemented in five stages: preliminary design, planning consent, detailed design and tendering, construction, and handover. We are currently at Stage 1 (preliminary design).

WHY WE ARE HERE TODAY

The Scheme Introduction PPD was held on 13th December 2023 and looked at previous flood history. This Public Participation Day (PPD) the project team are presenting the emerging flood protection options for the scheme.

We would like your opinions of which proposals you like or don't like. Your feedback from the event will be considered, along with all other relevant assessment items, to identify the preferred scheme. When the preferred flood protection scheme is identified, an opportunity for public comment will again be provided by a third PPD at a later date.

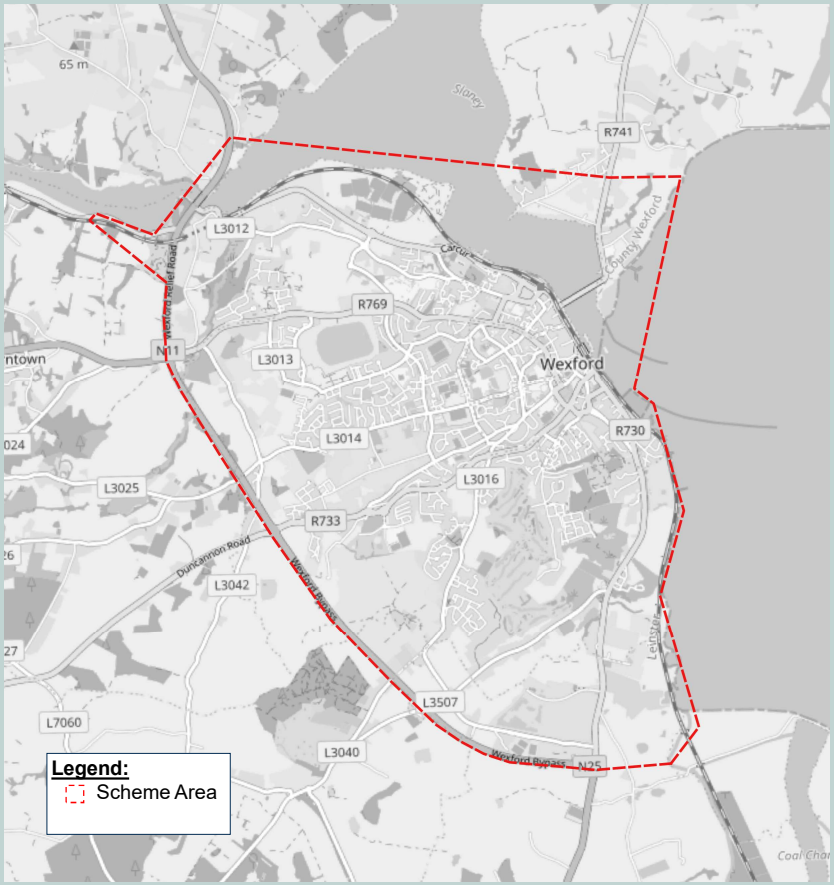
ABOUT THE PROJECT TEAM

In 2023, Nicholas O'Dwyer Limited (NOD) was commissioned to carry out the Wexford Town & Environs Flood Relief Scheme (FRS) by Wexford County Council (WCC), working in partnership with the Office of Public Works (OPW). Wexford County Council is the Local Authority for the scheme area and in partnership with the OPW has commissioned this project. The project is being run by the Special Project Section within Wexford County Council, which is responsible for the implementation and day to day management of the Scheme.

The OPW is the national funding authority for flood relief projects. Funding for the scheme is being provided through the current National Development Plan. Non-flood related measures, such as public realm or greenway, will require alternative funding sources.

Nicholas O'Dwyer Ltd. is a consulting engineering firm with its head office in Dublin and currently working on flood relief projects in Wexford, Dundalk, Rosslare and Dublin. NOD is an RSK group company with offices in Dublin, Cork, Newry, Birmingham, and Johannesburg.

WEXFORD TOWN & ENVIRONS SCHEME AREA



SCHEME DEVELOPMENT PROCESS

The objective of this project for the town of Wexford is the identification, design, submission (for planning consent), and the construction of a Flood Relief Scheme to manage and mitigate fluvial (river) and coastal flood risk.

- DATA COLLECTION AND REVIEW — COMPLETED
- MANAGEMENT AND PROCUREMENT OF SURVEYS — COMPLETED
- HYDROLOGICAL ANALYSIS — COMPLETED
- HYDRAULIC ANALYSIS — COMPLETED
- OPTIONS LONGLISTING — COMPLETED
- TESTING OPTIONS AND APPRAISAL OF VIABLE OPTIONS — COMPLETED
- EMERGING OPTIONS PUBLIC PARTICIPATION DAY
- IDENTIFICATION OF PREFERRED SCHEME
- PREFFERED SCHEME PUBLIC PARTICIPATION DAY

A long list of flood relief options was compiled and evaluated to identify the most appropriate solutions for shortlisting.

The impacts of these shortlisted options will then be evaluated in a scored Multi-Criteria Analysis to determine a ranking of each option. These rankings, together with the public opinions of the options, are used to determine which option should be brought forward as the preferred option.

Multi-Criteria Assessment categories to choose a Preferred Option

Today, we would like your opinion on the emerging potential options so that your views can form one element in the evaluation when choosing a preferred option.

Once identified, the emerging preferred option will be shared with the community for consideration before the scheme is brought forward for planning consent.

OPTION DEVELOPMENT PROCESS

Following the estimation of flood extents, potential flood risk management options are developed and assessed to identify a preferred solution. The option development process includes the following stages:

FLOOD RISK MANAGEMENT POLICIES

Policies are potential management approaches to address flood risk within an area. These define the alignment of the proposed flood defences.

FLOOD MANAGEMENT MEASURES

Flood risk management measures are potential solutions to address the impacts of flooding.

Not all measures are suitable for every location or management policy, so each measure was qualitatively screened to evaluate its appropriateness.

OPTIONS LONG LIST

- Develop a long list of potential measures. This represents a wide range of possible approaches to managing flood risk, both *individual measures* and *combinations of measures*. These options broadly align with the policy approaches identified previously.
- Each option is assessed qualitatively against a defined set of criteria:
  - technical performance, (does it work!)
  - compatibility with local constraints, such as environmental, social, and cultural considerations.
  - adaptability to Climate Change.
- Options that did not sufficiently meet these criteria were screened out to produce a more focused shortlist for further development.

We want to hear your views!

That's today

EMERGING OPTIONS

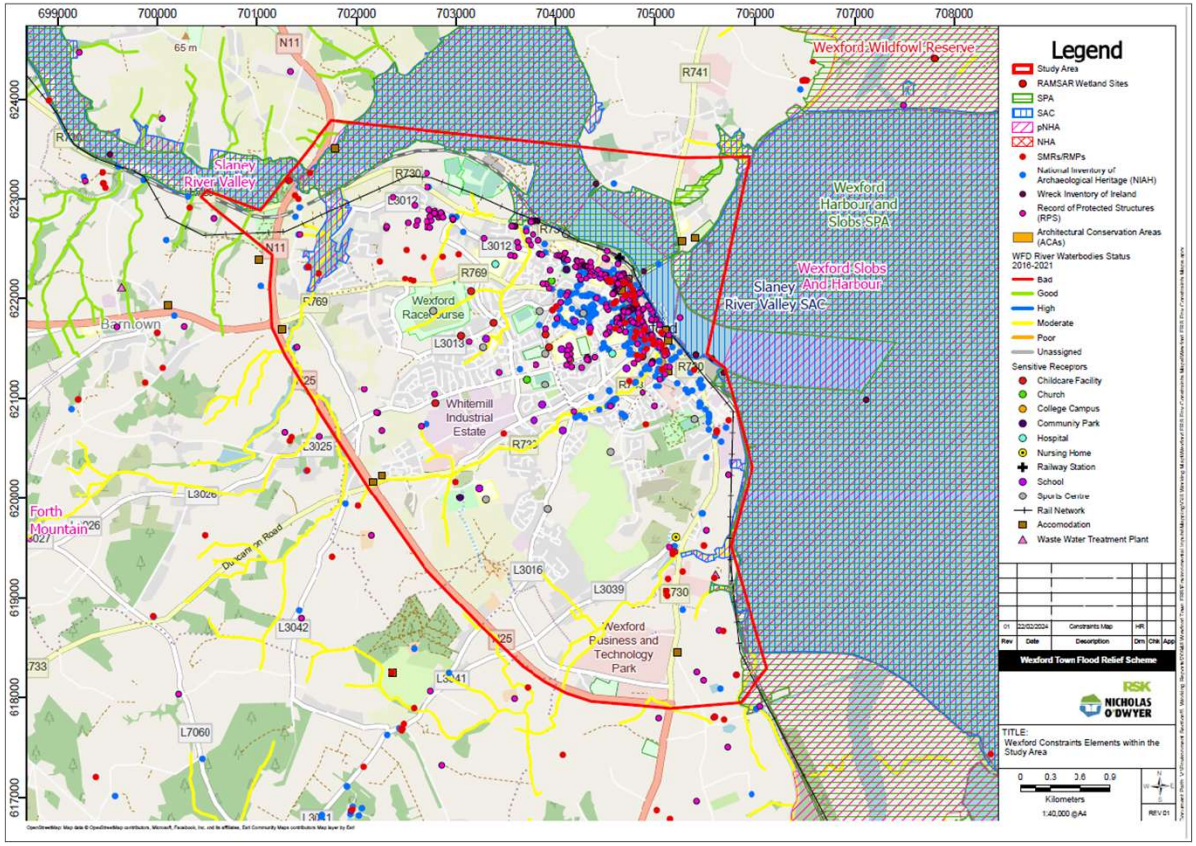
- A short list of options was developed from those not eliminated during the long list stage.
- The shortlist ***Emerging Options*** are progressed through further engineering design and assessment
- Emerging Options are presented to the public to gather feedback before undertaking a detailed multi-criteria analysis to identify a **Preferred Option**.

EMERGING PREFERRED OPTION

An Emerging Preferred Option is selected and design and planning of the option can commence.

ENVIRONMENTAL CONSTRAINTS

Part of the scheme area is in the Slaney River Valley Special Area of Conservation (SAC) and the Wexford Harbour and Slobs Special Protection Area (SPA). SACs and SPAs are protected sites designated under EU legislation (Habitats and Birds Directives). They are designed to meet specific conservation objectives for designated habitats and species. SACs are designated to protect a wide range of habitats or species while SPAs are designated for the protection of bird species.



Slaney River Valey SAC

Relevant Qualifying Interests:

- Estuaries
- Mudflats and sandflats not covered by seawater at low tide
- Atlantic salt meadows
- Mediterranean salt meadows

Wexford Harbour and Slobs SPA

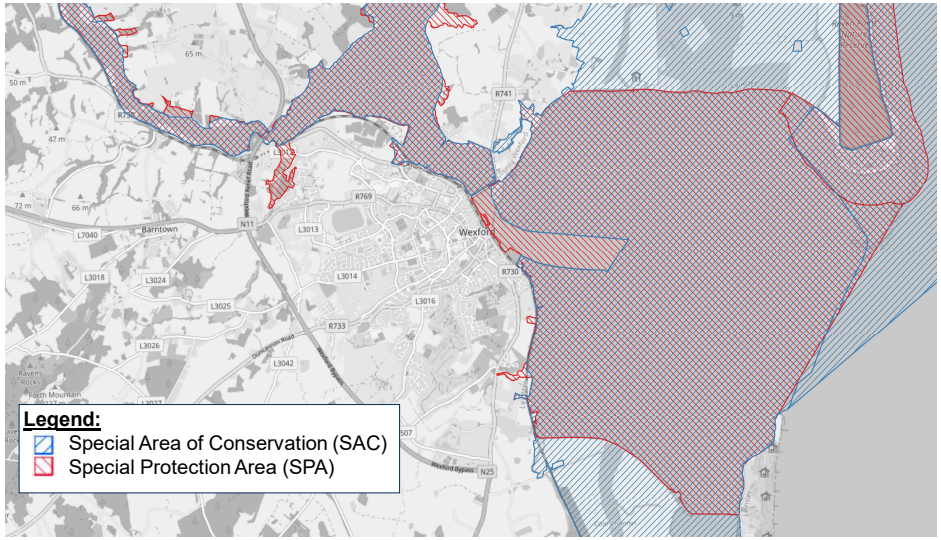
Qualifying Interests:

- Little Grebe
- Great Crested Grebe
- Cormorant
- Grey Heron
- Bewick's Swan
- Whooper Swan
- Light-bellied Brent Goose
- Shelduck
- Teal
- Mallard
- Pintail
- Scaup
- Goldeneye
- Red-breasted Merganser
- Hen Harrier
- Coot
- Oystercatcher
- Golden Plover

Environmental assessments have been carried out to date:

- Preliminary Ecological Appraisal (Spring 2024)
- Invasive species survey (Spring 2024, Spring 2025)
- Wintering bird survey (Spring 2024, Winter 2025)
- Breeding Bird survey (Summer 2024, Summer 2025)

WHAT DOES THIS MEAN FOR THE FLOOD RELIEF SCHEME?



The presence of SAC and SPA designations means that any flood relief proposals must be carefully designed to **avoid or minimise impacts on protected habitats and bird species**, meaning:

- ✓ Seaward expansion should be avoided
- ✓ Habitat impacts must be minimised
- ✓ Nature-based solutions prioritised where feasible
- ✓ Any loss of habitat would require compensation

European legislation requires a staged assessment process where works could significantly affect a protected site, with further stages required only where significant adverse effects on yhe protected site cannot be ruled out.

Stage 1: Screening for Appropriate Assessment (AA)
Stage 2: Appropriate Assessment – Natura Impact Statement (NIS)
Stage 3: Examination of Alternatives if Stage 2 cannot mitigate adverse impact
Stage 4: IROPI (Imperative Reasons of Overriding Public Interest)

WHAT IS IROPI*? (Imperative Reasons of Overriding Public Interest)*

Conditions: It is a last-resort exception to the Directive only applicable if there ***are no alternative solutions*** and the public interest overrides the ecological damage.

Compensatory Measures: If invoked, the developer must implement measures to ensure the overall coherence of the Natura 2000 network is protected.

The **Habitats Directive** requires Member States to inform the Commission of the compensatory measures; this enables the Commission to review whether the compensatory measures are sufficient to ensure that the coherence of the network is maintained.

Protecting public safety from flooding and protecting the natural environment must both be considered in developing a preferred option

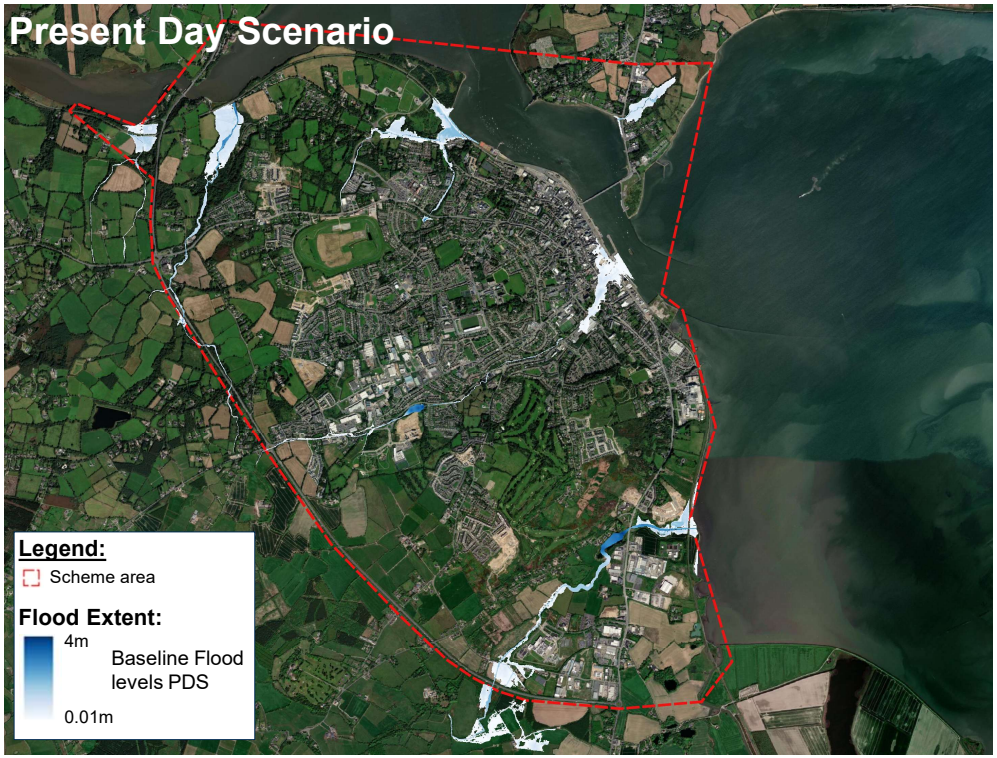
FLUVIAL (RIVER) FLOOD RISK MAPPING

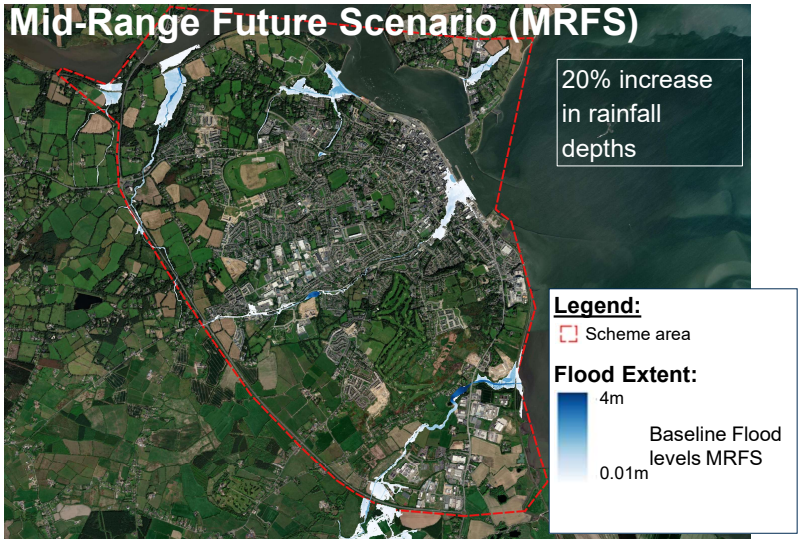
Flood Extent Scenarios:

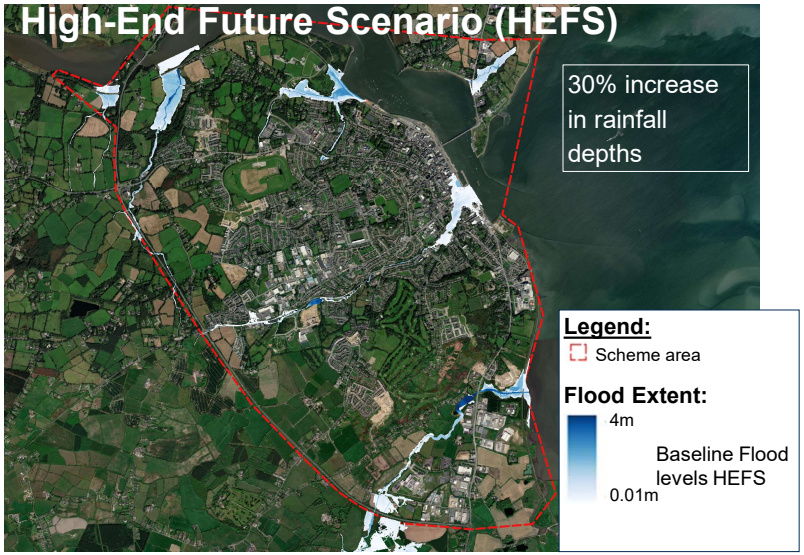
Present Day scenario: for a 1 in 100 year event or 1% Annual Exceedance Probability, (AEP) (1% chance of occurring in any given year)

Climate Change: The impact of the OPW Mid-Range Future Scenario (MRFS) and the OPW High-End Future Scenario were checked

River Slaney: Flood levels from the River Slaney are higher in coastal driven flood events than in fluvial flood events, so the Slaney impacts are shown on the coastal flood mapping.

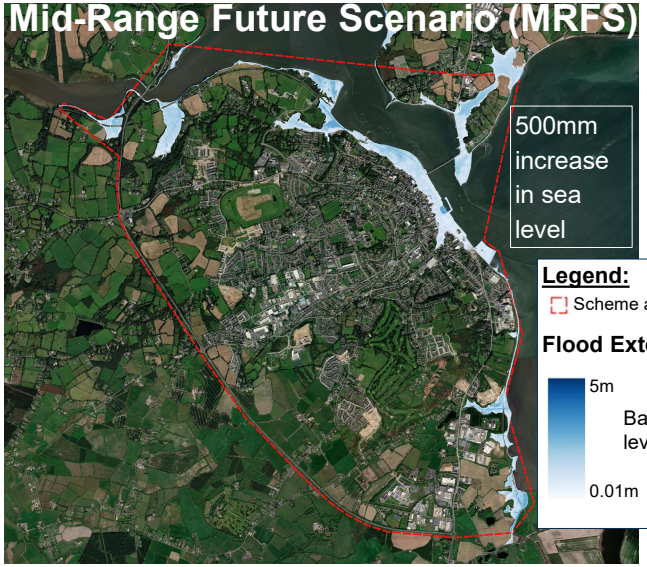


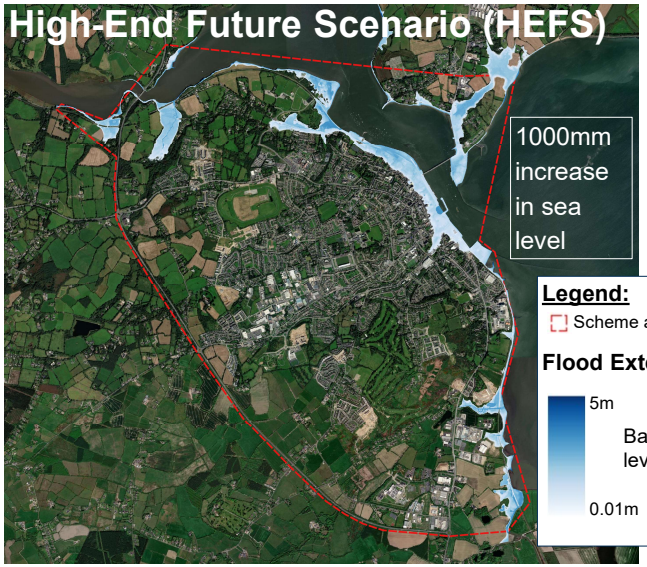




COASTAL FLOOD RISK MAPPING

Present Day scenario: for a 1 in 200 year coastal event or 0.5% Annual Exceedance Probability, (AEP) (0.5% chance of occurring in any given year)





NATURE BASED SOLUTIONS

Nature Based Solutions (NBS) are actions that use a natural approach to accomplish adaptation and resilience against flooding events. NBS For Wexford Scheme this could include:

- reconnecting the floodplain,
- creating upstream temporary retention basins or
- meandering rivers.
- creation of marshland or dune areas

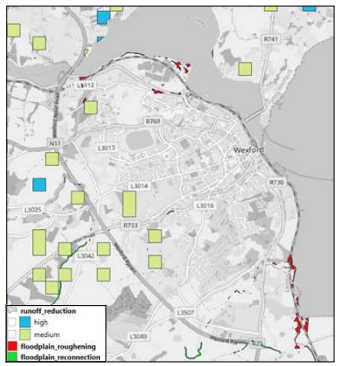
Advantages to NBS:

- provide cost effective solutions in certain areas,
- create or enhance habitats
- Can require less maintenance and have a lower carbon footprint.

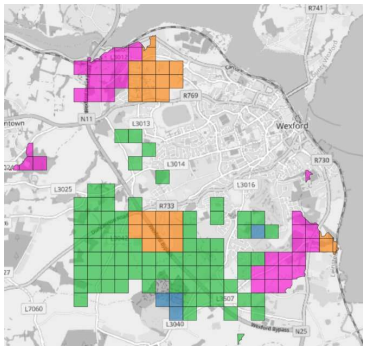
Constraints to NBS:

- best suited for less dense areas and can be constrained by topography
- Some are also not suitable for managing high intensity of flooding

Several NBS were evaluated in this scheme but unfortunately, due to spatial constraints of existing urban development, most of these solutions were not applicable to the project area. The ones considered in these options at present are natural storage and connection with the floodplain.



OPW NBS potential mapping



NOD NBS potential mapping

CLIMATE CHANGE ADAPTABILITY

Climate Change Adaptability is ensuring that flood risk management interventions are designed considering the potential increase in flood risk that could arise in the future due to climate change. Two climate change scenarios are considered: the Mid-Range Future Scenario (MRFS) and High-End Future Scenario (HEFS). These scenarios are based on climate modelling and projections documented by the Intergovernmental Panel on Climate Change (IPCC) and considers various timelines scenarios for the occurrence of the MRFS and HEFS.

Parameter	MRFS	HEFS
Extreme rainfall	+20%	+30%
Peak flood flows	+20%	+30%
Mean Sea Level Rise	+500mm	+1000mm

The options are designed for Present Day Scenario (PDS) but also considering adaptation for future proofing, including for the MRFS and the HEFS.

The adaptation potential is assessed through **the Scheme Climate Change Adaptation Plan (SCCAP)**, throughout the scheme development, where adaptation to MRFS and HEFS are considered from the initial measures screening stage to the preferred option stage. In particular, the Plan identifies and screens a list of potential adaptation measures and pathways, establish timing of trigger points for initiating new measures and assess adaptability and flexibility of the scheme.