Lauren Griffin

From: Philippe Beubry <philippe.beubry@kilkennycoco.ie>
Sent: Tuesday 2 June 2026 09:48
To: LAPS
Cc: Joseph Scully; Lauren Griffin
Subject: Case Number ACP-323950-25
Attachments: GTFRS Cover Letter response to submissions DAU.pdf; GTFRS Response to submissions from DAU report.pdf

Good morning,

Attached please find response to your correspondence dated 16th April 2026 relating to case reference ACP-323950-25 Flood Relief Works at Graiguenamanagh, Co. Kilkenny and Tinnahinch, Co. Carlow.

Please acknowledge receipt of this email by return,

Kind Regards

Philippe Beubry
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Flood Relief Schemes
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Comhairle Chontae Chill Chainnigh
Kilkenny County Council

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Pobail agus Áiteanna Inbhuanaithe a Chruthú

Kilkenny County Council
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Creating Sustainable Communities and Places

Secretary,

An Coimisiuni Pleanala,

64 Marlborough Street

Dublin 1.

D01 V902

2nd June 2026

Your Ref; ACP-323950-25

Re; Flood Relief Works at Graiguenamanagh, Co. Kilkenny & Tinnahinch, Co. Carlow.

A Chara,

Following receipt and review of your letter and submissions from the Development Applications Unit relating to both Architectural Heritage and Nature Conservation queries relating to the above proposed scheme on the 16th April please find our responses and comments in the accompanying report.

We trust the attached addresses the queries raised.

I would be grateful if you could acknowledge receipt of this letter.

Is mise le meas,

Philippe Beubry,

SEE,

Flood Section,

Kilkenny County Council.

Report on DAU Observations to Part 10 Development (ACP-323951-25)

Graiguenamanagh Tinnahinch Flood Relief Scheme

Report No. W3451-W-R022

26 May 2026

Revision 01

Kilkenny County Council

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Report on DAU Observations to Part 10 Development (ACP-323951-25)

Report Number:

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Date	Rev	Details of Issue	Prepared by	Checked by	Approved by
18 May 2026	00	Issued to KCC for review	Jackelyn Wren Andrea Brogan	Andrea Brogan Seán Harrington	Seán Harrington
26 May 2026	01	For issue to ACP	Jackelyn Wren Andrea Brogan	Andrea Brogan Seán Harrington	Seán Harrington

Disclaimer: Please note that this report is based on specific information, instructions, and information from our Client and should not be relied upon by third parties.

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Contents

Introduction

Background

On 12 December 2025, Kilkenny County Council (KCC) submitted a planning application for approval under Section 175 and 177AE of the Planning Development Act (as amended) and the Planning and Development Regulations 2011 (as amended) for proposed development works for the Graiguenamanagh-Tinnahinch Flood Relief Scheme (GTFRS). The An Coimisiún Pleanála (ACP) Case Number for the Planning/EIAR Application is ACP-323951-25.

On the same day, KCC also submitted an application to compulsory purchase lands to facilitate the construction of the Graiguenamanagh-Tinnahinch Flood Relief Scheme. This was entitled '*Kilkenny County Council Compulsory Purchase Order No. 07 of 2025 Graiguenamanagh-Tinnahinch Flood Relief Scheme*'. The ACP Case Number for the CPO is ACP-323950-25.

Two submissions were received from the Development Applications Unit (DAU) by ACP and forwarded to KCC on 16 April 2026:

1. DAU – Architectural Heritage submission
2. DAU – Nature Conservation submission.

This document sets out KCC's response to the matters raised in the above submissions.

[1] DAU Architectural Heritage Submission

Received from Cormac O'Flaherty, Higher Executive Officer, under letter reference S177AE Graiguenamanagh Tinnahinch FRS, dated 10 April 2026.

The reply to the DAU's queries/issued raised has been made under the same respective headings for clarity and organisation.

[1.1] Observation on the Planning Submission, Cultural Heritage Chapter EIAR

The desktop study provides a comprehensive review of the historic context and setting of Graiguenamanagh and Tinnahinch, including the Prehistoric Period (c.7000 BC-400 AD), Early Medieval Period (400AD – 1200 AD), Medieval Period (1200AD – 1600AD), the development of the two towns from the dissolution of the monasteries in 1536, and the post-medieval/industrial heritage period framing the overall cultural significance of the place. It then goes on to list all cultural assets present in the study area, as a pre-cursor to the impact assessment where the impact to these is reviewed in the context of the proposed works areas (Areas 1 to 10). This was considered to be the most comprehensive and 'easy to follow' format for the impact assessment. However, the assessment still maintains an overarching view with regard to the sense of identify and culture within the town, how the individual assets in combination contribute to the riverine charm of the town, and how the flood relief scheme may cause change to this.

With regards to the observation on coherence and design of the flood relief barriers in relation to the unique historic setting, there was considerable consultation and collaboration between the cultural heritage, conservation and landscape and visual specialists during the preparation of the EIAR. The corresponding EIAR chapters (Chapter 9 Cultural Heritage and Chapter 11 Landscape and Visual) both comment upon and make linkages to the interactions between the disciplines, most notably for the potential for impacts to the unique historical setting of Graiguenamanagh and Tinnahinch. Photomontages and public realm design drawings appended to the EIAR (Appendix 4-2 and 4-3) demonstrate the level of change to the receiving historic environment and views and how public realm proposal seek to address this. Conservation measures such as the careful choice of material to be used to reflect the existing built heritage environment or introduce a new tone, the use of stone clad walling and flood proofing buildings with traditional materials and mortar to assist in their protection and preservation all seek to preserve and enhance the historic townscape and riverscape of the town. The detailed design of the proposed flood defences will go further in incorporating these public realm and conservation considerations and KCC note Clonakilty 400, Phase 3 as an exemplar for community engagement, flood relief and public realm enhancement. With regards to this project (GTFRS), a coordinated approach has been taken with landscape architects, conservation specialist and consultation with the public in designing a flood relief scheme that incorporates full and comprehensive public realm considerations as outlined in the Landscape Drawings included in Appendix 4-2 and Photomontages included in Appendix 4-3.

[1.2] Architectural Heritage Recommendations

We note that the DAU have stated that the Architectural Heritage Guidelines required a conservation heritage impact assessment by a conservation architect for any work to or in the vicinity of a protected structure, NIAH site or the ACA. The *Architectural Heritage Protection GUIDELINES FOR PLANNING AUTHORITIES, 2011* do not mandate such an appointment. The guidelines encourage the appointment of persons competent in these specialist activities.

A conservation strategy for the scheme has been prepared by a Conservation Specialist at Southgate Associates, the relevant contents of which are incorporated into both Chapters 9 and 11 (Cultural Heritage and Landscape & Visual, respectively). The Conservation Specialist has influenced the design of the scheme considerable and residual impact have been assessed and measures to mitigate the impacts have been outlined in the EIAR.

A preliminary building and conservation strategy was undertaken by Southgate Associates which included a condition survey of 14 heritage structures in the River Duiske character area, with associated report contained in Appendix 9-12 of the EIAR.

An orthophotographic survey took place along the Duiske River to assess the walls and structures as well as existing vegetative growth that aligns the channel and to assist with the Conservation Strategy undertaken by Southgate Associates. A full set of images are included in Appendix 9-16 of the EIAR.

It is stated in commitment CH_3 of the EIAR, "*a project conservation engineer will be retained where appropriate during the preparation of the tender/ works package, construction and reinstatement stages of the FRS. The conservation engineer will ensure that the specifications and methodologies outlined in Drawings 1441 and 1442 are carried out in full and that the work is to an appropriate standard. Methodologies are to be agreed with the NBHS in advance of works*". The EIAR includes for further works relating to recording of architectural heritage (CH_4a and 4b).

The scheme has been designed specifically, from the outset to minimise impact on architectural heritage, and as noted in Appendix 9-12, the submitted proposal (Option 3) was the least impactful – a major influencing factor in final scheme selection. KCC also wish to note that upstream storage has been identified specifically in order to reduce and avoid works along the heritage rich River Duiske corridor and crossings.

Interventions to the cultural landscape will have regard to the protected views and vistas, as addressed in the Landscape and Visual Impact Assessment (LVIA) of the EIAR, and carefully considered as part of a fully coordinated approach to the overall urban character and landscape design, as well as understanding of the Architectural Conservation Area (ACA).

Having regards to the DAU Heritage submission, the project team have engaged with NMS and NBHS and the requirement for a Grade 1 Conservation Architect has not been relayed previously. KCC have no objection to the services of a Grade 1 Conservation Architect or equivalent being employed, but the scope must be specific relevant to the proposed scheme, as submitted. It is however, KCC's view that the commitment made in CH_3 of the EIAR is sufficient.

Specifically, KCC would suggest that a Conservation Engineer be retained, to specify work materials and oversee quality control during the works phase as per mitigation CH_3 of the EIAR.

[2] DAU Nature Conservation Submission

Received from Cormac O'Flaherty, Higher Executive Officer, under letter reference S177AE Graiguenamanagh Tinnahinch FRS, dated 2 April 2026.

The reply to the DAU's queries/issued raised has been made under the same respective headings for clarity and organisation.

[2.1] Matters Relating to Appropriate Assessment

[2.1.1] Otter

1. During the 2021 Habitats and Species Baseline Survey, a potential couch was noted on the Barrow River adjacent to where the mill race joins the canal by Tinnahinch Castle. This observation was identified within the Mill Race (i.e., not along the main River Barrow Channel), 280m downstream from the closest proposed flood defence works on Tinnahinch Quay.

   Potential holts were observed upstream on the River Duiske where the mill race goes under the R705 near Aldi, denoted by the presence of scars where otters had attempted to burrow, but due to the unstable nature of the soil, there was question as to whether these were ever viable holts. These observations were made ~395m upstream from the closest proposed flood defence works in the town area, and ~1.2km downstream from the proposed upstream storage area.

   Additional follow-on mammal surveys were conducted in August 2023 and again in March 2024, encompassing all river extents within the study area, not just the upstream storage area. Direct evidence of otter was not observed during this survey although there were instances of indirect evidence suggesting their presence. At the time that the EIAR was submitted, the latest survey would have been <2 years old and therefore compliant with the Chartered Institute of Ecology and Environmental Management (CIEEM) 2019 guidance of the lifespan of ecology surveys.

   Otter have been carefully considered in the EIAR and Natura Impact Statement (NIS). Pre-construction surveys will be undertaken as outlined in Section 10.8, mitigation reference 'Bio_3' of the EIAR. This will confirm any derogation requirements. However, as per the NIS and EIAR impact conclusions, no significant effects are anticipated to otter and therefore Article 16 derogation is not anticipated. As noted previously, the otter holt and couches recorded as part of the surveys are considerable distances from the proposed works therefore Article 16 derogations will not be required for the holts previously identified.

2. Regarding the extent of riparian habitat and vegetation removal, the proposed scheme does not result in significant change from the existing scenario in the townlands where defences are largely in made ground with minimal vegetation removal required. More significant vegetation and riparian habitat removal is required however to facilitate the upstream storage structure. Overall, the area of riparian habitat removal has been quantified conservatively as 0.12 hectares to facilitate the construction of the flow control structure when you consider a 10m buffer as detailed in NPWS's response. However, some of this land is wet grassland rather than riparian habitat. The wooded habitat in this section is classified as treelines, as opposed to riparian woodland, because they were notably narrow and less natural in appearance than other wooded riparian habitats that were observed (as per the Habitats and Species baseline report included in Appendix 10-2). A further small pocket (0.3 hectares) of

riparian habitat will be removed to facilitate construction of a flood defence wall at The Dock. Given the extent of suitable otter habitat in the wider area and SAC in general, this habitat loss would not result in a significant decline in the extent of terrestrial habitat as per the SSCO.

3. It will be possible for Otter to pass through the hydrobrake. The opening is sufficiently large, the flows are not strong, and the Otter have been known to pass through longer structures. There are no barriers to otter movement in the larger area due to the rural nature of the site. Further, otter mortality is often due to barriers forcing them onto roads and into traffic routes. That is not applicable here as the otters can walk around the barrier. It is acknowledged that the otter will also utilise other routes to pass by the upstream storage area and therefore will not compromise the conservation objectives of otter as a QI of the River Barrow and River Nore SAC.

   Otter migration during the works will be accommodated along the proposed temporary river diversions in accordance with the Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes (National Roads Authority, 2005), as detailed in the mitigation measures within Section 10.2 of the NIS. In regard to the SAC's SSCO for otters requiring 'no significant increase in the number of barriers to connectivity', all river diversions are proposed to be temporary to facilitate the construction only and will be removed on completion, and therefore a 'significant increase in the number of barriers' is not considered applicable in the context of this project.

4. As identified in mitigation reference 'Bio_3' of the EIAR, pre-construction otter surveys will be undertaken. KCC confirm that this will involve a re-surveying of all watercourses 150m up and downstream of the proposed defences 3 months prior to any works being undertaken. From this, mitigation shall be identified by the qualified ecologist where otter holts or couches are identified.

5. Tree Surveys were undertaken within the study area between 2023 and 2024, and an accompanying Arboricultural Report is contained in Appendix 10.11 of the EIAR presenting the results of this. Crack willow (*Salix fragilis*) was not identified in the study area.

[2.1.2] Annex I Habitats

Habitat mapping undertaken as part of the scheme did not identify any alluvial woodland in the riparian zone impacted by the scheme. It is stated that no habitat fitting the description for Annex I alluvial woodlands was identified during the 2024 habitat survey (included in Appendix 10-2 of the EIAR). The habitat mapping is detailed in Figure 10-20 and Figure 10-21 of the EIAR. It is detailed in Table 6-3 of the NIS that the nearest known alluvial woodland is 7km upstream of the proposed scheme area.

The habitats directly impacted by the construction of the upstream storage area are largely wet grassland. The wooded habitat in this section is classified as treelines, as opposed to riparian woodland, because they were notably narrow and less natural in appearance than other wooded riparian habitats that were observed (as per the Habitats and Species baseline report included in Appendix 10-2). This is further supported by the Tree Survey Report included in Appendix 10-11 of the EIAR. Any other habitats identified as WN4 or WN5 are not directly impacted by the works and are not likely to experience indirect impacts. The habitat noted as WN1 in the EIAR is the existing old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] identified by NPWS.

Regarding works proximal to old sessile oak woods (91A0), the impacts can be ruled out as all works will take place within made ground with the flood wall abutting the existing retaining wall. The mature

woodland is on high ground to the west and is separated by a 1m high stone retaining wall to support the flood gate. As noted in the Tree Survey Report, there will be no impacts to the old sessile oak woods.

Section 2.3.15 of the EIAR references the Natural Flood Risk Management Report that was prepared to examine the potential of Natural Water Retention Measures (NWRM) or Nature-based Solutions. It is concluded that whilst Woodland Creation and Offline Wetlands had potential, the cost and performance of these measures meant they were not viable to protect against the 1% AEP flood event. Further, it is noted in the Natural Flood Risk Management Report (NWRM) that the Barrow Catchment would be ineffective in providing flood relief to Graiguenamanagh-Tinnahinch give the vast size of the catchment (2,778km^2). The extent of the riparian woodland impacted is not significant in terms of natural flood storage owing to the narrow extent of the riparian corridor.

[2.1.3] Aquatic Species

1. In terms of aquatic surveys, a full suite was completed in 2021 including specialist surveys for water quality, invertebrates, Q-value, fisheries presence, fisheries habitat, White-Clawed Crayfish (eDNA sampling plus physical surveying) and Freshwater Peal Mussel (eDNA sampling plus physical surveying). In 2023, aquatic surveys were completed at the upstream storage area including specialist surveys for water quality, invertebrates, Q-value, fisheries habitat and White-Clawed Crayfish.

   In reviewing the requirement to repeat the aquatic surveys in the town area (i.e., downstream portions of the River Duiske, and along the River Barrow), a professional ecologist, Brendan O'Connor, with 40 years of experience and prior involvement in the initial 2021 surveys conducted a site visit, completed an updated desktop appraisal and reviewed the validity of the previous surveys based upon the criteria outlined in the CIEEM 2019 guidance of the lifespan of ecology surveys.

   With regards to Q-values, invertebrates and fisheries/electrofishing, the walkover did not record any notable qualitative changes to any habitats in the study area, and from secondary review, no significant pollution events occurred in either river since 2021. For this reason, additional Q-value, invertebrates and fisheries/electrofishing surveys were not deemed to be required for the EIAR, and information could be sufficiently 'topped up' with available data from the Environmental Protection Agency (EPA) and Inland Fisheries Ireland (IFI). With regards to White-Clawed Crayfish and Freshwater Peal Mussel, the absence of these species from the 2021 surveys was deemed sufficient evidence as to their non presence in the study area, and therefore repeat surveys were not considered a requirement.

2. White-Clayed Crayfish surveys were completed in April 2021 via trapping (n=5 sites), hand-searching/sweep netting (including snorkelling) (n=9 sites) and the examination of otter spraints for crayfish remains. No white-clawed crayfish were recorded. Furthermore, eDNA analysis of n=3 water samples failed to identify any white-clawed crayfish eDNA within the wider survey area. Crayfish were also absent from the surveys completed in 2023 in the upstream storage area.

   As quoted from the Graiguenamanagh-Tinnahinch Flood Relief Scheme White-Clawed Crayfish (*Austropotamobius pallipes*) Survey report (Triturus, 2021) contained in Appendix 10.8 of the EIAR, outbreaks of the pathogenic *oomycete* (water mould) crayfish plague (*Aphanomyces astaci*) were recorded along the River Barrow main channel, from Carlow to Graiguenamanagh, in 2017 (see NBDC data) with characteristic large-scale mortalities recorded from Leighlinbridge downstream to Graiguenamanagh (NPWS, 2017). Additional, smaller-scale outbreaks were recorded from the upper Barrow catchment, upstream of

previous outbreaks, in both 2018 and 2019 (NPWS, 2019). Environmental DNA sampling for white-clawed crayfish as part of the National Crayfish Plague Surveillance Program 2018-2019 identified the species presence in the upper River Barrow catchment only (Swords, 2020). Consequently, the conservation status of this Annex II conservation objective species in the River Barrow (part of the River Barrow & River Nore SAC) appears seriously jeopardised.

Should this species be reintroduced to the Duiske River, a key requirement for the success would be free movement of the species through the river (as per Environment Agency Guidance of Habitat for White-clawed Crayfish). The hydrobrake will not result in a sudden change in bed level and would allow for a continuous flow but would not create a velocity barrier. Therefore, White-Clawed Crayfish would be able to move within the river system. Further, the hydrobrake would not result in scour so wouldn't impact upon the development of habitat downstream. The flow control structure would result in an approx. 10m stretch of artificial river bed. However, the majority of the flow control structure will have a natural bed which will facilitate the movement of white-clawed crayfish.

3. In the 2021 Freshwater Peal Mussel survey eDNA was detected in the River Barrow water sample, collected at Lower Tinnahinch Weir (1 positive qPCR replicate out of 12). The high sensitivity of eDNA analysis likely enabled a detection of these upstream freshwater pearl mussel populations from the Lower Tinnahinch Weir water sample. Although highly variable, downstream transport of eDNA in riverine environments is known to extend to >100km (Pont *et al.*, 2018), with reported detectable distances for freshwater bivalves ranging from as little as 25m to 12km (*e.g.* Preece *et al.*, 2020; Lor *et al.*, 2020; Stoekle *et al.*, 2015; Deiner & Altermatt, 2014). In light of this, it is unclear whether our analysis detected pearl mussel eDNA from the upstream Mountain River or Ballymurphy River populations. The Mountain River and Ballymurphy River populations are located c. 7km and 5km upstream of Graiguenamanagh, respectively.

   Alternatively, the detected eDNA may have originated from pearl mussel washed into the main Barrow channel from the Mountain River. Fluvial mussel migration from the Mountain River to the main Barrow channel has been noted previously in the River Barrow catchment (in 1991, Sweeny, 2011). Recent NPWS data (2018) indicate low numbers of pearl mussels within the main Barrow channel downstream of the Mountain River and Little Ballyine River confluences, respectively. These are likely individuals originating in the Mountain River. The closest live pearl mussel record for the River Barrow record is located approx. 6.1km upstream of Graiguenamanagh (Ballyine River confluence). It is possible that our analysis detected eDNA emanating from this location or from an overlooked site of fluvially-migrated mussels from a Barrow tributary.

   Irrespectively, Stage 1 surveys confirmed the absence of freshwater pearl mussels from the Graiguenamanagh survey area (*i.e.* present some undefined upstream only).

   Due to various significant pressures (*e.g.* eutrophication, siltation), the River Barrow retains no suitability for a recruiting freshwater pearl mussel population (see section 4.2) and the species is generally accepted as being extinct within the main Barrow channel (Lucey, 1998; however, see below). Extant populations within the Barrow catchment are confined to the Mountain River, Ballymurphy River (Ballyroughan River) and Aughavaud River sub-catchments (Moorkens, 1992, 2008, 2009a, 2009b; Ross, 2006; DEHLG, 2010a, 2010b, 2010c).

   The River Barrow channel (survey sections D and E) featured high levels of siltation and high coverage of filamentous algae, indicative of significant eutrophication. Siltation of interstitial spaces in the substrata reduces oxygen exchange required by juvenile mussels and is the

critical factor determining successful *Margaritifera* recruitment (Hyvärinen *et al.*, 2021; Moorkens & Killeen, 2014; Geist & Auerswald, 2007). Siltation (invariably associated with eutrophication) also impacts the filter feeding ability of adult mussels (Goldsmith *et al.*, 2021; Moorkens, 1999) and can lead to mortality via smothering in extreme cases. Furthermore, the Barrow at Graiguenamanagh Bridge (station RS14B013500) achieved Q3-4 (moderate status) water quality in 2020, a decline from Q4 in 2016 (EPA data). The species typically requires water quality corresponding to high ecological status (*i.e.* ≥Q4-5) (Moorkens, 2000), as set out under the Freshwater Pearl Mussel Regulations S.I. No. 296 (2009). Thus, there is no suitability for *Margaritifera margaritifera* in the River Barrow in the vicinity of Graiguenamanagh.

The Graiguenamanagh River (Duiske tributary) provided no suitability for freshwater pearl mussel given high bed compaction, enrichment pressures and moderate siltation (derived largely from sheep poaching and adjoining agricultural land use). Furthermore, the small river did not support a salmonid population upstream of the extensive R705 culvert (2021 Triturus electro-fishing data) and also suffered from low flows, seasonally. The lower survey reaches, downstream of the culvert, were also unsuitable for pearl mussel given evident enrichment, historical modifications and bed compaction.

Whilst significant effects are screened in for salmon at the screening stage in Table 6-3 of the NIS, it is subsequently determined that through the implementation of mitigation measures, significant effects are unlikely, and therefore the scheme would not affect the SSCO for FPM to "maintain sufficient juvenile salmonid numbers to host glochidial larvae".

All of the above provided justification for the determination made in the NIS whereby the works would not result in significant effects to FPM habitats.

4. The potential impacts to salmon and lamprey and their associated SSCO are outlined in Table 9-1 of the NIS. This table also includes a summary of mitigation measures. The full suite of mitigation measures are detailed in Section 10 of the NIS. As noted in the mitigation measures, the full extent and design of the river diversion will be prepared at detailed design stage but will be designed in accordance with the Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (IFI, 2016) and Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes (NRA, 2005). A suitably qualified fisheries ecologist will undertake an assessment of proposed sites for the watercourse diversion to determine the suitability of the site as Salmonid spawning habitat.

   The flow control structure will not prevent the migration to upstream spawning grounds. During typical flows, the flow velocities are similar to the prevailing conditions as outlined in Figure 2-1 and Figure 2-2 below. The project team for GTFRS visited sites in the UK to observe hydrobrake (vortex control structures) 1st hand and are satisfied that upstream and downstream migration of both fish and small waterborne mammals will be possible. The use of vortex control for such purposes is well documented[1].

[1]https://www.researchgate.net/profile/Mike-Faram/publication/270685377_Vortex_flow_controls_in_integrated_stormwater_management_for_urban_environments/links/54c212570cf25b4b8072cf3d/Vortex-flow-controls-in-integrated-stormwater-management-for-urban-environments.pdf

Figure 2-1. Inlet conditions on Vortex Flow Control Structure on a UK EA flood scheme (typical low flow conditions).

Figure 2-2. Outlet conditions on Vortex Flow Control Structure on a UK EA flood scheme (typical low flow conditions).

There is further information and mitigation detailed in the Construction Environmental Management Plan which is referenced in Section 10.3 and 10.6.2 of the NIS. This includes for an Ecological Clerk of Works to oversee and monitor all measures taken to protect the aquatic environment. This specifically details mitigation for unforeseen events.

[2.1.4] Pollution

The scheme presents a number of spatial constraints on the downstream ends of the River Duiske where concrete works are proposed. Therefore, it is not feasible to utilise pre-cast concrete to

complete these works and in-situ is required. Where in-situ concrete is required for the upstream storage area, a temporary river diversion will be in place minimising risk to the river. Procedures and methodologies in relation to pollution control are outlined in the NIS as well as in the following documents, all of which form part of the planning application:

- NIS Section [10.2] General Site Management, including those relating to the prevention, management and treatment of spillages/contamination.
- EIAR Chapter 12 'Land, Soils, Geology and Hydrogeology', mitigation measures referenced 'LSGH_6' to 'LSGH_18' with regard to prevention, management and treatment of spillages (fuels, hydrocarbons, chemicals, concrete washout).
- EIAR Chapter 7 'Material Assets', mitigation measures referenced 'WM_1' to 'WM_5' with regards to waste management.
- CEMP Section [7.2] Leaks and Spills Measures.
- CEMP Appendix E Outline Construction and By-Products Waste Management Plan.

[2.1.5] Killarney Fern

Surveys for the identification of flora within the study area were conducted in 2021 and repeated in 2024. Killarney Fern (*Trichomanes speciosum*) was not identified in either of these survey occasions.

As identified in the NIS, Killarney fern is associated with alluvial woodlands, caves, and exposed rock, and is classified as a terrestrial plant species. As such, potential surface water run-off and/or sediment influxes from the project will not have significant effects on the conservation objectives of Killarney Fern, which are:

- No significant decline in distribution.
- Maintain the population size through the number of colonies.
- Maintain the population structure of colonies that exhibit unfurled fronds.
- No significant decline / change in habitat extent.

Given the absence of the species from the proposed defence locations and work areas, the project is not anticipated to jeopardise any of the above objectives.

[2.2] Matters Relating to the Environmental Impact Assessment Report (Biodiversity Chapter)

[2.2.1] Bats

1. The location of the potential bat roosts identified in the 2021 survey are shown in Figure 10-25 of the EIAR. PR2 is within a building on Peg Washington's Lane and PR9 is at Tinnahinch Castle. No works are taking place in the vicinity of Tinnahinch Castle, so this potential roost was not considered any further. The works will take place adjacent to PR2. The buildings/structures at Peg Washington's Lane were surveyed again in 2024 and on no occasion were any species of bats seen re-entering or emerging from the buildings during surveys. Veon noted in their 2024 report (included in Appendix 10.5) that "several PRFs were observed on most buildings within the town, and bats may occupy these buildings occasionally". These bat surveys were undertaken by the lead bat survey ecologist at Veon

who maintains up to date knowledge of the most recent guidance in relation to bat surveying and conservation. Since this survey, construction works by an external party have been undertaken on this building, to include a complete renovation of the property, so bats are unlikely to utilise this as a roosting site anymore. The below image Figure 2-3 shows the current state of the building that had been marked PR2. It is undergoing change of use to short-term let with the additional construction of an extension.

Figure 2-3. Current state of building previously marked PR2 as of 25/05/2026

As detailed in Section 4.3.31 of Chapter 4 of the EIAR, a bored pile solution will be implemented for the construction of the flood wall to reduce excavation next to this building and to provide cut-off for seepage. These works will take place instream. Structural monitoring of the building will be undertaken as per the EIAR and no structural impacts to the building are anticipated. The noise mitigation measures outlined in Chapter 10 of the EIAR will minimise impacts to bat species in the vicinity of the works. As per mitigation outlined in Section 10.8, Bio_3 of the EIAR; "*A pre-construction survey of the scheme will be undertaken by an experienced Ecologist in order to confirm the baseline conditions and refine environmental mitigation as required prior to construction works commencing on the site*". This will inform any derogation licence requirements and required mitigation should a roost be recorded at this location at that time.

2. During the bat surveys completed in 2024, all bridges and culverts within the survey area were inspected to determine their potential/ suitability for bat roosts, using a 4-point classification system designed for bridges by Billigton & Normal (1997). The bridge requiring deck replacement in Turf Market was assigned a category 0 rating ('no potential) as it contained no suitable roosting features for bats. The bridge to be replaced is a modern bridge with no cracks or crevices suitable for bats which can be seen in the foreground of the following image, Figure 2-4.

Figure 2-4. Bridge (in the foreground) to be replaced at Turf Market

3. Every effort will be made to avoid the removal of and damage to mature trees and treelines located outside of the immediate impact zone, adjacent to work areas. KCC commit to the measures recommended under mitigation referenced 'Bio_30', where it is stated that "*Retained trees will be protected from root damage by machinery by an exclusion zone of at least c. 7 metres or equivalent to canopy height. Such protected trees will be fenced off by adequate temporary fencing prior to other works commencing. This will ensure that bat transport and foraging routes (treelines) remain intact and unharmed from the works.*"

4. KCC note the recommendations made and confirm that no trees with bat roost potential will be removed outside of the period of September to end of October.

   As noted in mitigation referenced 'Bio_31' of the EIAR Chapter 10 on Biodiversity, "*any mature broadleaved tree(s) scheduled for removal as part of the proposed development plans will be surveyed for bat presence by a suitably experienced specialist immediately prior to felling. If bats are found, an application for a derogation licence will be made to the National Parks and Wildlife Service to allow its legal removal*".

   With regards to the inclusion of detailed mitigation should a roost be identified, it has been assumed that this shall be determined by the derogation process.

5. Installed bat boxes will be monitored over a period of 2 years to record their usage. Results will be shared with the National Parts and Wildlife Authority (NPWS) and/or Bat Conservation Ireland, as desired.

[2.2.2] Compounds

There are 6 compounds shown on Drawing no. W3451-AYE-DWG-W-1402. These include a main compound for use for the duration of the construction programme, and additional compounds for use for individual works packages. The main compound (SC-A) in Tinnahinch will serve as a base, where the site offices and welfare facilities will be located. No stockpiling of materials or equipment is

proposed at this location. This compound is more than 150m from the SAC. By the nature of the flood relief works, works areas are within or proximal to the river, meaning site compounds adjacent to the river are unavoidable. The remaining site compounds (SC-B - SC-F) have been sited largely on made ground and will not impact upon habitats for which the SAC is designated. These compounds will be maintained to the minimum size required and will have silt fences on the perimeter of the compounds to prevent any run-off into the SAC (as per mitigation measure Bio_2). Further, all materials will be bunded or stored in the dry. The location of the compounds adjacent to the river are fixed to facilitate the construction at the various works areas, particularly for the storing of equipment. A minimum buffer of 3m has been applied to allow a natural bank path.

As detailed in Section 4.4.17 of the EIAR, rainwater run-off from the contractor's compounds will be controlled via a temporary surface water control system comprising measures such as swales (ditches) and settlement ponds (or similar system) which will minimise the risk of pollution to soil, surface water or groundwater. The temporary surface water control system will be subject to a visual inspection as well as routine maintenance. The inspection frequency will be increased during periods of exceptional high rainfall.

The management of surplus excavated material or temporarily stored materials at the site compounds will be determined by the classification of the material (i.e., contaminated, or not, in line with the European Waste Catalogue and Hazardous Wate List, the Waste Management Act and the Hazardous Waste List), which will be the responsibility of a dedicated Waste Manager in line with the mitigation measures WM_1-WM_5 outlined in Chapter 7 'Material Assets'.

Site compounds will be restored to their original state following the construction phase.

[2.2.3] Birds

Dedicated surveys for kingfisher burrows were not completed; however, inspection of their perches was undertaken as part of the bird surveys completed for the project. Maps of the recorded perches are included in Figure E-1 and Figure E-2 of Appendix E of the NIS and Appendix 10-12 of the EIAR. None of these perches are affected by the proposed scheme. Further, it is noted there are no suitable breeding sites for Kingfisher adjacent to the works.

Impacts to Kingfisher are considered in Table 6-2 of the NIS. It is stated that "the proposed works are short-term and primarily limited to bankside works (with small volumes of instream works), and whereby the occurrence and abundance of aquatic communities along the River Duiske and River Barrow will not be significantly altered in the medium - or long-term. As such, significant effects to the conservation objectives of Kingfisher through surface water pathways are unlikely." Impacts on the conservation objectives as a result of noise and vibration are also considered to be short-term. Pre-construction surveys will be undertaken as outlined in Section 10.8, Bio_3 of the EIAR.

As quoted from mitigation referenced 'Bio_59', "*To limit the potential impact of construction on breeding birds, removal of woody vegetation will be restricted to the non-breeding season (September to February, inclusive)*". KCC note the Department's observation that no license is available to permit the destruction of nests for construction works. No nests will be impacted during vegetation removal.

[2.2.4] Landscaping

The Overall Landscape Plan drawing (Drawing No. 1579-300-Rev.5) included in Appendix 4.2 provide a list of species proposed for the planting regime, including for native trees and hedgerows

to be incorporated in the scheme where this is possible. Post-scheme monitoring for these trees is included for in Table 18-13 of Chapter 18 of the EIAR which states "*Periodic visits will also be required for one year to ensure the successful establishment of the proposed planting and to recommend replacement planting where necessary*".

The Department's comments with regard to native planting for pollinator meadows and use of natural grassland over wildflower seed mixes have been noted and will be taken on board. However, it is noted that the wildflower meadows will be implemented according to the methodologies and recommended native seed mixes in the All-Ireland Pollinator Plan which was prepared by the National Biodiversity Data Centre and supported by NPWS. Action 7 of 'Councils: actions to help Pollinators' from the All-Ireland Pollinator Plan 2015-2020 calls for the planting of native perennial wildflower meadow. Further, these meadows will be combined with bee scrapes as this will encourage the successful implementation of these bee scrapes, in line with Action 16 which states that bare earth banks should be maintained for wild pollinator nesting. The list of species will also be taken from this document and will be a mixture of the following:

Option A

Little Experience with Perennials		Flowering
Aster 'Asran' / 'Stardust'	Pollinator	Aug - Sept
Crocosmia 'Babylon'	Pollinator	Aug - Sept
Geranium 'Cambridge'	Pollinator	May - Aug
Hemerocallis 'Stella d'or'	Pollinator	May - Aug
Nepeta 'Walkers Low'	Pollinator	May - July
Oregano 'Golden'	Pollinator	June - July
Rudbeckia 'Goldstrum'	Pollinator	July - Aug
Sedum 'Autumn Joy'	Pollinator	July - Aug
Stachys 'Byzantina'	Pollinator	July - Aug
Stipa arundinacea	Grass	

Plants from List A are easy to grow and maintain, ideal to start off with.

Option B

Some Experience with Perennials		Flowering
Achillea 'Moonshine'	Pollinator	May - Aug
Allium schoenoprasum	Pollinator	June - July
Anemone 'Splendens'	Pollinator	July - Aug
Aster 'Little Carlow'	Pollinator	Sept - Oct
Calamagrostis 'Karl Foerster'	Grass	
Calamintha	Pollinator	Aug - sept
Fennel	Pollinator	July - Sept
Knautia	Pollinator	July - Sept
Lamium 'Pink Chablis'	Pollinator	April - Aug
Lavender	Pollinator	May - July
Leucanthemum	Pollinator	July - Aug
Monarda 'Jacob Cline'	Pollinator	July - Aug
Osteospermum ecklonis	Pollinator	May - Aug
Salvia nemerosa	Pollinator	May - July
Stachys 'Hummelo'	Pollinator	July - Aug
Stipa 'Ponytails'	Grass	
Symphytum 'Wisley Blue'	Pollinator	April - May
Thyme	Pollinator	June - July