Submission 1

An Taisce
The National Trust for Ireland

20220728-ABP-313763

An Bord Pleanála
64 Marlborough Street
Dublin 1

Sent by email to: bord@pleanala.ie

28th July 2022

Ref:	**313763**
App:	**Cork County Council**
For:	**Proposed Fermoy Weir remedial works and fish bypass on the River Blackwater**
Site:	**Fermoy, Co. Cork**

A Chara,

An Taisce would like to make the following comments on the above application.

It should be ensured that all of the issues raised by the Department of Heritage in their letter of 28th February 2020 on potential impacts to the Blackwater River (Cork/Waterford) SAC have been fully addressed in the NIS and in the proposed design for the fish bypass and repaired weir. Full compliance with Article 6(3) of the Habitats Directive must be demonstrated.

The Blackwater River in the area of the subject site has been classed by the EPA as good status per EU Water Framework Directive (WFD) criteria. However, it is also deemed to be at risk of not meetings its WFD obligations for 2027. It is therefore submitted that a full assessment of the proposal against the requirements Article 4 of the WFD is needed to determine whether the project may cause a deterioration of the status of the river.

We would draw the Board's attention to the following points of relevant European caselaw regarding the WFD. In Case C-461/13 Weser the CJEU held:

> *"Article 4(1)(a)(i) to (iii) of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy must be interpreted as meaning that the Member States are required*
>
> *— unless a derogation is granted*

— to refuse authorisation for an individual project where it may cause a deterioration of the status of a body of surface water or where it jeopardises the attainment of good surface water status or of good ecological potential and good surface water chemical status by the date laid down by the directive."

There is also provision for the protection of water-dependent Natura 2000 sites under Article 4(1)(c) of the WFD, the Blackwater River (Cork/Waterford) SAC in the case of the subject application. The Board should therefore evaluate if the proposal has the potential to affect the achievement of compliance with the conservation objectives of the water-dependent Natura 2000 sites listed as 'protected areas' in the context of WFD Article 4(1).

We would finally highlight that Article 5 of the Surface Water Regulations 2009 requires a public authority, in the performance of its functions, not to undertake those functions in a manner that knowingly causes or allows deterioration in the chemical or ecological status of a body of surface water.

Please acknowledge our submission and advise us of any decision made.

Yours sincerely,

Phoebe Duvall
Planning and Environmental Policy Officer
An Taisce – The National Trust for Ireland

Submission 2

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

Your Ref: ABP-313763-22
Our Ref: **177AE Fermoy Weir CK**
(Please quote in all related correspondence)

29th July 2022

The Secretary
An Bord Pleanála
64 Marlborough Street
Dublin 1
D01 V902

Via email to sids@pleanala.ie

Re: Notification under Section 177AE (4)) (a) of the Planning and Development Act 2000 as amended (as inserted by Section 57 of the Planning and Development (Amendment) Act 2010.

Re: Section 177AE application by Cork County Council for Proposed Fermoy Weir Remedial Works and Fish Bypass on the River Blackwater, at Fermoy Weir (protected structure), Fermoy, County Cork.

A chara

I refer to correspondence received in connection with the above.

Outlined below are heritage-related observations/recommendations co-ordinated by the Development Applications Unit under the stated headings.

Underwater Archaeology

The Department has reviewed the Underwater Archaeological Impact Assessment (UAIA) (Mizen Archaeology, September 2020) and accompanying planning submission documents and the following are the recommended conditions that should be attached to any approval of planning permission by An Bord Pleanála:

1. The Mitigation Strategy described in Section 7 of the Underwater Archaeological Impact Assessment Report (Mizen Archaeology, Sept. 2020) shall be implemented in full.

2. Archaeological monitoring of all groundworks, including all works to the banks and in-stream shall be carried out and shall take the following format:

- The services of a suitably qualified and suitably experienced underwater archaeologist shall be engaged to carry out the archaeological monitoring of all works.

- The archaeological monitoring shall be licensed by the Department of Housing, Local Government and Heritage and a detailed method statement that sets out the monitoring strategy is to accompany the licence application. A Finds Retrieval Strategy shall be included in the methodology and all excavated deposits shall be spread and metal detected (under licence) to recover any archaeological objects that they may contain. The monitoring archaeologist shall obtain a dive survey licence in order to facilitate investigation of in-stream, underwater archaeological materials should they be uncovered.

- A communication strategy is to form part of the monitoring strategy to ensure full communication is in place between the monitoring archaeologist and the plant operator(s) at all times during works. The archaeological personnel undertaking the monitoring will be in a position to monitor directly all elements of the works, to ensure they have unobstructed views of the excavations, and the plant and machinery operators shall be prepared to facilitate the archaeological personnel in the undertaking of their monitoring work.

- Provisions shall be made to ensure that all historic structures within the proposed development area are protected from all potential adverse impacts. The archaeological monitoring strategy shall include the plan for the protection of these heritage assets.

- Should potential archaeological, including underwater, heritage be identified during the archaeological monitoring works, all works shall be suspended in the affected area pending further assessment and consultation with the National Monuments Service, who may recommend further archaeological assessment, monitoring, testing, avoidance/preservation *in situ* or full excavation.

Nature Conservation

The proposed weir is within, and the proposed fish pass directly adjacent to, the Blackwater River (Cork/Waterford) candidate Special Area of Conservation (cSAC) (Site Code 0002170). This European site has been designated for, amongst other habitats and species, alluvial woodland, water crowfoot/starwort communities, otter, Twaite shad, salmon, lamprey species, white-clawed crayfish and freshwater pearl mussel. Conservation objectives for this site are available at
https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002170.pdf

Twaite shad is a herring-like fish (please see picture of same at Appendix 1 below), and one of the fish species for which the Munster Blackwater River cSAC was designated. Sea lamprey is an agnathan fish, in other words it lacks jaws and possess a powerful suction like mouth. It is a conservation objective for both sea lamprey and Twaite shad to *restore* their favourable conservation condition in the Munster Blackwater River, by making more than 75% of the main channel length of the river accessible to these species from the Blackwater Estuary[1]. The upper boundary of the estuary is normally taken to be near Lismore, making 75% upstream of the freshwater length of the Blackwater River to be well above Mallow.

This means that repair of the Fermoy weir should only be permitted[2] where the fish pass will allow upstream access to both Twaite shad and sea lamprey. The design requirements for shad are more demanding, because, unlike salmonids, they are unable to jump or swim against any plunging water, and they swim in shoals rather than individually. Also, the flow velocities will need to avoid circumstances where shad will swim back down the fish pass, and they can abandon an unsuitable fish pass after entry[3]. Velocity barriers of 4.15 m/s for 6.1m or 4.5 m/s for 5m have been cited as passable by American shad[4]. Larnier and Travade (2002)[5] provide design recommendations for shad fish passways, and large numbers of shad have successfully passed designs used in Bergerac (France)[6], for instance.

Ensuring that the fish pass is suitable for Twaite shad will be a significant challenge for its design, and it is recommended that the Board seeks site-specific advice from Inland Fisheries Ireland (IFI) in relation to the efficacy of the proposed fish pass for Twaite shad and other fish species. The latter include European eel, an important prey species for otter, which is a listed species for the cSAC. In particular, the predicted water velocities in the bypass need to be carefully interpreted.

Natura Impact Statement (NIS): Alluvial woodland

The NIS refers to a small island on the south bank as potential alluvial woodland. The National Parks and Wildlife Service has examined this site and the larger block of woodland on the northern bank of the river 1-2 km upstream of the weir (where the water level is still

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[1] NPWS (2012) *Conservation objectives: Blackwater River (Cork/Waterford) SAC 002170.* Version 1.0. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002170.pdf

[2] Unless there are imperative reasons of over-riding public interest and the provisions of Art. 6(4) of the EU Habitats Directive apply.

[3] Castros-Santos, T. (2012) Adaptive fishway design: a framework and rationale for effective evaluations. Pages 76-90. In: Bundesanstalt für Gewässerkunde (Hrsg.): *Monitoring, Funktionskontrollen und Qualitätssicherung an Fischaufstiegsanlagen. 2. Kolloquium zur Herstellung der ökologischen Durchgängigkeit der Bundeswasserstraßen am 07./08. Juni 2011 in Koblenz.* – Veranstaltungen 7/2012, Koblenz, August 2012.

[4] Haro, A. and Castro-Santos, T. (2012) Passage of American shad: Paradigms and realities. *Marine and coastal fisheries: Dynamics, management and ecosystem science* **4**: 252-261.

[5] Larnier, M. and Travade, F. (2002) The design of fishways for shad. *Bulletin Français de la Pêche et de la Pisciculture* **364** (Supplement): 135-146.

[6] Travade, F. et al. (1998) Feedback on four fish pass installations recently built on two rivers in southwest France. Pages 146-170. ICES Annual Science Conference 1996.

affected by the weir). In neither case is it considered that alluvial woodland occurs here due to the dominance of non-native species, especially by sycamore in the upper stretch. Summer snowflake (*Leucojum aestivum*), a characteristic species of alluvial woodland on the River Shannon in Limerick, was recorded in the upstream riparian area. However, it is likely that this species is derived from non-native stock in this part of the Blackwater River, as it is an escaped alien in other Cork rivers.

Natura Impact Statement: Alternatives

If the Board is requesting further information, it would be useful to have a summary table of the advantages and disadvantages of the various alternatives assessed in pages 23-30 of the NIS.

The NPWS was not specifically proposing the option of a fish pass in the existing breach (page 27 of the NIS), but rather aiming to ensure that all options are fully and clearly assessed. The argument presented on page 27 that this is not viable as fish will move to the upstream point raises the question as to why this is so if there is no downstream water flow at this upper point.

Indirect effects: Crayfish plague

If the reinstatement of the weir results in increased international or intercounty recreational usage of the upstream stretch by kayaks and canoes, then it is important to ensure that biosecurity measures are fully implemented to avoid the introduction of crayfish plague. Local extinctions of the crayfish population in parts of the River Suir are considered likely due to this disease, possibly introduced from the UK in recreational boats. It is critical that the Blackwater River remains free of the disease.

Monitoring

On page 136 of the NIS, it proposed that eDNA monitoring of the efficacy of the fish pass, particularly in relation to Twaite shad access, is carried out. As this reads as a proposal, this Department recommends that this monitoring is conditioned.

You are requested to send any further communications to this Department's Development Applications Unit (DAU) at manager.dau@housing.gov.ie, or to the following address:

The Manager, Development Applications Unit (DAU), Government Offices, Newtown Road, Wexford, Y35 AP90

Is mise, le meas

Joanne Lyons
Higher Executive Officer
Development Applications Unit
Administration

Appendix 1

Fish pass: Twaite shad, sea lamprey and eel

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Submission 3

Iascach Intíre Éireann
Inland Fisheries Ireland

An Bord Pleanála

64 Marlborough Street

Dublin 1

D01 V902

28 July 2022

RE: SECTION 177AE and PLANNING & DEVELOPMENT REGULATIONS 2001 (as amended)
PROPOSED FERMOY WEIR REMEDIAL WORKS AND FISH BYPASS ON THE RIVER BLACKWATER, AT FERMOY WEIR (PROTECTED STRUCTURE), FERMOY, CO. CORK

Dear Sir/Madam

Inland Fisheries Ireland (IFI) welcomes the opportunity to comment on Cork County Council's application with respect to the proposed re-instatement of Fermoy weir and construction of a bypass channel on the north bank of the river.

IFI notes that within the Natura Impact Statement the options available include 4.2.1 do nothing and 4.2.2 stabilise remaining section of existing weir. These options were ruled out in the report due to the water velocity being *'too fast to facilitate upstream movement of qualifying interest fish species...'* however no data is presented on water velocity readings within and downstream of this section of the river to support this analysis. IFI water velocity readings taken in 2019 indicate that water velocities would not be a barrier to the migration of salmon (velocity range 0.35 – 1.62m^{-1}), while water velocity in locations were above thresholds for lamprey it is possible to achieve passage using the bottom and edge effects. IFI would recommend that the first two options be investigated further and fully considered.

IFI restate its view that the removal of the weir would be the most beneficial option from a fisheries perspective: returning the river to a more natural hydromorphological state, allowing for free passage of aquatic organisms (including but not limited to: *Austropotamobius pallipes* (White-clawed Crayfish) *Petromyzon marinus* (Sea Lamprey), *Lampetra planeri* (Brook Lamprey), *Lampetra fluviatilis* (River Lamprey) *Alosa fallax fallax* (Twaite Shad) *Salmo salar* (Atlantic Salmon)), sediment transport and improved continuity of the riparian zone in general. At an international level the EU Biodiversity Strategy for 2030, has recognised the need for greater efforts to restore freshwater ecosystems and the natural functions of rivers. It has identified that the removal of weirs and dams will help freshwater ecosystems thrive and facilitate the migration of endangered species, such as Atlantic salmon, Sea lamprey and the European eel. Investing in healthy rivers will also bring many benefits related to ecosystem services, such as flood protection, water purification and greater recreational opportunities.

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IFI Macroom, Sunnyside House, Macroom, Co. Cork, P12 X602
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It has been noted that there are now far fewer signs of adult salmon activity in the environs of the weir, which may reflect that post-breach, salmon are no longer delayed below the structure; this was not the case pre-breach when upstream migrants, reliant on the fish pass, were held below the weir and vulnerable to various predators. Adult salmon do not accumulate or jump at the weir barrier as was the case pre-breach, with fresh-run salmon being caught upstream of Fermoy even in low water conditions indicating their free passage to the upper catchment.

Similarly, the present funnelling of the river to the breach east of the bridge appears ideally suited in facilitating the downstream migration of salmon smolts. The proposed location of the fish bypass channel (option 8 in Natura Impact Statement Report) is flush with the northern bank and may not be readily located by downstream migrants resulting in fish passage being delayed or their being diverted. The development of a fish passage solution would need to be supported by an analysis to support both upstream and downstream migration of fish. Any delay or accumulation of migrating salmon at any stage in their life cycle may lead to increased predation and mortality.

Prior to the occurrence of the breach IFI had recorded a concentration of Sea Lamprey redds immediately downstream of Fermoy weir but not so since, a further indication that the barrier effect on fish passage of the weir may have been reduced significantly. Furthermore IFI has recorded Sea Lamprey redds during the course of survey work (AMBER 2020 D4.2 Report of Case Studies Demonstrating the Effects of Barrier Removal, Mitigation and Installation) upstream of the breached weir in riffle habitat newly generated at the upstream limit of the formerly impounded channel resulting from the lowering of the water level.

The breaching of Fermoy weir exposed impounded salmon habitat 3.8km upstream at Castle Hyde House. The dewatering of the weir exposed 26,000m^2 of glide, 11,000m^2 of riffle and 7,500m^2 of side arm river habitat. Based on fish survey data this newly exposed habitat supports significant numbers of salmon fry and parr and the spawning of adult sea lamprey. This "restored" habitat would be lost in the event that repair of the weir resulted in raising the impounded water level to its prior state. The dewatering of Fermoy weir and the return of natural processes and ecology in previously impounded sections of river represents the natural regeneration of an aquatic habitat and stresses the importance of barrier removal in accordance with EU Habitats Directive/Water Framework Directive.

It is in this respect that IFI are of the opinion that this work will re-introduce artificial habitat namely the impounded section that will be detrimental to the spawning habitat that has been present in the upstream area since the weir breached in 2016 (Section 3.6 Class 9g in Environmental Impact Assessment Screening Report). It is also our opinion that this work should be subject to an Environmental Impact Assessment as there is a real likelihood of significant effect on the environment as a result of this work. Currently there are limited fish passage issues at the Fermoy weir, reinstating this weir will result in a significant impediment to fish migration and natural river processes within a Special Area of Conservation. The mitigation measures outlined in this application (use of a bypass channel) are only considered when removal or partial removal of a weir are not possible. In this regard partial removal has already taken place.

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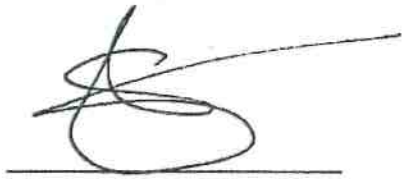
Iascach Intíre Éireann
Inland Fisheries Ireland

In summary, IFI is of the opinion that as a result of the breach at Fermoy weir the free passage of migrant fish has been significantly improved and continues to do so in the period since the main breach event. IFI recommends that further consideration is given to options 4.2.1 do nothing and 4.2.2 stabilise remaining section of existing weir as evidence suggests that the current weir breach is facilitating fish passage and offers habitat and hydromorphology gains upstream of the weir.

Yours sincerely,



Sean Long

Director

South West River Basin District

Inland Fisheries Ireland

References

AMBER 2020 D4.2 Report of Case Studies Demonstrating the Effects of Barrier Removal, Mitigation and Installation. Uploaded onto Amber.international website on deliverables page.

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Submission 4

Our Case Number: ABP-313763-22

An Bord Pleanála

Office of Public Works
C/O Patrick McAlinney
1GQ, Georges Quay
Dublin 2
D02 Y098

Date: 18 August 2022

Re: Proposed Fermoy Weir remedial works and fish bypass on the River Blackwater.
Fermoy Weir (Protected Structure), Fermoy, Co. Cork.

Dear Sir / Madam,

An Bord Pleanála has received your recent submission in relation to the above mentioned proposed development and will take it into consideration in its determination of the matter.

Please note that the proposed development shall not be carried out unless the Board has approved it with or without modifications.

If you have any queries in relation to the matter please contact the undersigned officer of the Board. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Doina Chiorescu
Executive Officer
Direct Line: 01-8737133

AA02

Teil	**Tel**	(01) 858 8100
Glao Áitiúil	**LoCall**	1890 275 175
Facs	**Fax**	(01) 872 2684
Láithreán Gréasáin	**Website**	www.pleanala.ie
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64 Sráid Maoilbhríde
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64 Marlborough Street
Dublin 1
D01 V902

Doina Chiforescu

From: SIDS
Sent: Wednesday 3 August 2022 08:08
To: Doina Chiforescu
Subject: FW: Proposed Fermoy Weir Remediation and Fish Bypass Works - Case Reference Number: JP04.313763

From: Patrick McAlinney <patrick.mcalinney@opw.ie>
Sent: Friday 29 July 2022 16:27
To: SIDS <sids@pleanala.ie>
Cc: Bord <bord@pleanala.ie>
Subject: Proposed Fermoy Weir Remediation and Fish Bypass Works - Case Reference Number: JP04.313763

Dear Sir / Madam,

I refer to the above project which has been notified to the Commissioners of Public Works by letter, dated June 8th 2022.

While we have not had the opportunity to carry out a comprehensive review of the project documentation, we would like to make a number of comments and draw various issues to your attention as you consider the application for permissions for this development.

River Blackwater (Fermoy North and South) Drainage Scheme (or Flood Relief Scheme)
The Commissioners have constructed a flood relief scheme in Fermoy, providing protection to both Fermoy North and Fermoy South. This scheme has been carried out by the Commissioners under powers given to them in the Arterial Drainage Acts of 1945 and 1995 as amended.

The project Planning Red Line Boundary indicated on the planning drawings for this project includes the locations of a number of features or elements of the flood relief scheme as follows:

1. The River Channel itself.
2. The Floodplain of the river.
3. Flood defence embankment.
4. Flood defence walls.
5. A Pumping Station.
6. Demountable barrier threshold structures
7. Emergency bed stabilisation works.
8. Drainage outfalls.

Any interference with any of these elements of the Flood Relief Scheme requires the consent of the Commissioners under Section 9 of the Arterial Drainage (Amendment) Act of 1995. This is an independent statutory requirement from the need to get planning permission for the project, and a grant of planning permission does not obviate the need to obtain such consent.

Other Statutory Consent
Section 47 of the arterial Drainage Act of 1945, as amended, stipulates that any person who proposes to build or modify a weir is required to have the consent of the Commissioners of Public Works. This consent is an independent statutory requirement from the need to get planning permission for the project, and a grant of planning permission does not obviate the need to obtain such consent. This consent may be applicable in this case.

Planning Drawings submitted
A number of comments arise from a brief review of the drawings submitted for the project. These are as follows:

A. It is noted that a number of the drawings indicate proposed planting of trees distributed over the width of the floodplain between the proposed fishpass and the flood defence embankment. This could very conceivably have the effect of reducing the flow capacity in the floodplain and thereby increasing flood levels in large floods. (Further comment later).

B. With regard to the proposed construction of the fish pass and its build up, we would comment that the materials should be carefully selected to remain stable in all flood conditions. Any instability of the material leading to a mobilisation of material in turn could lead to accumulation of material downstream causing a potential reduction of flow capacity in the bridge or the channel downstream. This could have an adverse impact on flood levels in the area, and potentially increase flood risk in the town.

C. It is welcome that gravel from downstream deposits in the river is to be used in the construction of the fish pass. This will have a positive impact on the channel capacity downstream.

D. The labelling of two of the cross sections on plan on drawing 19011-TJOC-PL-XX-DR-C-0060, in the area of the bed stabilisation works is not clear. Thus, arguably, it is not clear what the cross sections are showing, because the labels on plan don't match those on drawing 19011-TJOC-PL-XX-DR-C-0063.

E. The levels indicated on drawing no. 19011-TJOC-PL-XX-DR-C-0063 appear to be up to about 350mm higher than the weir in this location (assumed) prior to collapse. This is a potentially significant matter, and could trigger the need for Section 47 consent as mentioned above.

F. Drawings 19011-TJOC-PL-XX-DR-C-0084 and 19011-TJOC-PL-XX-DR-C-0085 both indicate potentially significant interferences with the flood plain between the river and the flood defence embankment, spoil heaps, and site accommodation and facilities respectively. These matters could cause significant obstruction to flow and cause an increase in flood levels. It is noted that the site facilities are stated to be above the 1% AEP flood levels. However, this flood level is about 3.5 metres above ground levels in this area. The support structure for these facilities, if placed in the location indicated, could, as said, have a significant adverse impact on flood levels and thus on flood risk.

G. Similarly, drawing 19011-TJOC-PL-XX-DR-C-0086 indicates that the whole of the floodplain width between the river channel and the flood defence embankment is occupied by 'works' There is no indication what these 'works' might be nor if they might or might not have an obstructive impact (to river flow) on the flood plain, and thus increase flood levels and flood risk. These issues need to be controlled (through the FRA, planning conditions, and the Section 9 consent process) so that an increase in flood risk does not arise, even on a temporary basis as a result of the proposed development.

H. Further to comment A above, it is noted that drawing number LP-01-PP shows in plan and section a relatively dense amount of vegetation and tree planting distributed over much of the width of the floodplain between the fish pass and the flood defence embankment, labelled as 'riparian enhancement'. This could have adverse impacts on flood levels and flood risk in the town, as per previous comments. We would advise strongly that the floodplain between the flood defence embankment and the river channel in a town where there is a particularly high level of flood risk, and where the State has made very substantial investment in flood protection, is not a suitable location for dense planting of this nature. This should not be permitted as part of the development.

Flood Risk Assessment

It is noted that a Flood Risk Assessment has been prepared and is included in Appendix E of the 'Engineering Technical Report to Accompany Planning Application'. A brief review of the flood risk assessment report prompts the following comments:

a. The scope of the assessment as outlined in section 1.4 does not include an assessment of the flood relief scheme (and the documentation supporting it), which has been carried out in the town. It is noted that the scheme is referred to in a later section of the report.

b. Neither is there any reference to the flood relief scheme in the town in Table 3-1.

c. It is noted that flood levels from CFRAM outputs are referred to in Section 4.2, rather than the flood relief scheme outputs. For example, the 1% AEP flood level with the scheme in place is noted in the 2007 document referred to in Section 5.1 as being 25.38 or so, rather than the 24.82 mentioned in Section 4.2.

d. In section 5.1 it is noted that there were discrepancies between observed and predicted flood levels in Fermoy and that updated/review work was carried out in 2011. It is also stated that a design memo prepared in 2007 is referred to, to provide flood levels for a variety of purposes in this FRA. It is not stated however, and this is a serious concern, that the flood levels in the 2007 memo were in effect the source of the discrepancies referred to earlier. It is a matter of concern that the levels in this 2007 memo are relied on in the way that they are in this FRA.

e. The section describing the model calibration (Section 5.3.3) only refers to levels obtained from the 2007 memo. In principle, as these levels are generated from a computer model themselves, they are not suitable for

model calibration in such important work as this FRA, which is intended to support the application for permission for this development in a location which already has a very high level of flood risk. In practice, it is a serious matter of concern that the 2007 memo is relied on in the way that it is for model calibration when it is known that the information in it was the basis of the discrepancies mentioned earlier.

f. Furthermore, on the matter of model calibration, there is an amount of recorded river level data from river level gauges operated by this office, in Fermoy. This data should be used to calibrate the model, not computer generated data that is known to be unreliable.

g. It is not indicated in the flood risk assessment whether any of the items mentioned above under the heading "Planning Drawings submitted", which could have an adverse impact on flood levels and flood risk, have been considered in any way in the flood risk assessment. They should be considered and reported on in detail.

h. In summary, as will be reasonably clear from the foregoing comments, it is felt that the adequacy of this flood risk assessment to support the application for permission for the proposed development, should be questioned. If this office were the deciding authority on this matter, further work on the flood risk assessment would be required, before a decision would be made.

Requirements of OPW

Section 3.4 of the FRA refers to consultation with OPW. The requirements of the OPW might be summarised as follows, for clarification:

- The impact on low and high flood levels as a result of this proposed development needs to be considered adequately, so that an assessment can be carried out as to whether Section 47 consent is required or not.
- Consent under Section 9 as referred to earlier should be applied for and obtained prior to any work proceeding on site.
- There should be no impact on the flood levels that are used to trigger erection of demountable barriers and other actions, in response to rising floods in Fermoy, and their relationship with flow, as a result of this development. This has not been evaluated in the FRA.
- There should be no adverse impact on flood levels in the town that would reduce the effectiveness of the flood defences provided nor the standard of protection provided.
- The restrictions on the contractor to be appointed to carry out the works in terms of interference with the flood plain should be addressed and identified, by the developer and their consultants, in the FRA and specified in the works requirements. They should not be left for the contractor to address.

Please contact this office if you require any further information.

Yours faithfully,

Patrick McAlinney

Patrick McAlinney
Flood Projects Management

Oifig na nOibreacha Poiblí
Office of Public Works

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https://filetransfer.opw.ie/filedrop/patrick.mcalinney@opw.ie

Submission 5

24 JULY 2022

REF FERMOY WEIR

Dear Sir / Madam,

I am writing to express my thoughts on the reconstruction of the weir in Fermoy.

This weir was originally installed to power the mill on mill island. This has not operated in years. This made the weir 100% redundant, yet it continued to flood the town on a regular basis. To this extent a huge amount of money was invested in flood defences. Since the weir was breached the river has not come near to breaking its banks like it used to. On top of this there is a European directive that all unnessessary obstructions to the path of migratory fish species should be removed if not needed.

In my opinion the weir should be left to nature, and let the river sort itself out. The town would be more attractive in the long run with a natural river running through it. The Blackwater would return to its original state. It wouldn't flood ever. If the weir is rebuilt then eventually we will get an exceptional weather circumstance that will overpower the towns defences, with obvious consequences.

To rebuild this weir is a waste of money. Please do not give planning permission for this unnessessary eyesore. People refer to the weir as "The Monument". It is no more than a pile of rubble that has outlived its original purpose. LET NATURE BE!

Yours faithfully,

[redacted]

Submission 6

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

SIDS / LAPS Section
An Bord Pleanála
64 Marlborough Street
Dublin 1
D01 V902

Dáta / Date	Ár dTag / Our Ref.	Bhur dTag / Your Ref.
5 July 2022	**TII22-119006**	**P04.313763**

RE: Fermoy Weir remediation and fish bypass works on the River Blackwater.

A Chara,

Transport Infrastructure Ireland (TII) has received referral of the above local authority development.

TII has reviewed the document and wishes to advise of serious concerns regarding the proposal. TII advises that the proposal, if implemented, is likely to present a significant risk to the stability of the Fermoy Bridge and public safety.

The Fermoy Bridge is a multi-span masonry arch structure dating from 1865. Masonry arches are typically constructed on shallow foundations and are particularly vulnerable to scour. The foundation level of Fermoy Bridge is not known.

In managing the bridge stock at this location, TII have implemented special underwater inspections, and hydraulic and hydrological assessment of structures and riverbeds, to identify potential scour at structures, including the Fermoy Bridge. TII advises that the stonework piers and abutments have suffered mortar loss and minor scour is present at one of the piers.

Scour is defined as the erosion of riverbed material and when it occurs at or near a bridge substructure, it can weaken or has the potential to undermine a bridge's foundations. Scour is also the most critical defect and most common failure mode for bridges. It is therefore important that rivers are managed to prevent scour of the riverbed at or near such structures.

The current proposals include for:

- dredging the river immediately adjacent to the upstream side of the bridge; and
- the construction of a new embankment and fish passage at the bridge.

Both of these works are likely to expose the bridge piers to scour and create risk to the stability of the Fermoy Bridge. TII therefore is unable to support this proposal, as the works proposed do not demonstrate that they address the requirement of maintaining the structural integrity of the Fermoy Bridge and therefore meet the requirements for public safety.

TII advises that prior to making any decision, a revised approach to this proposal should be undertaken in consultation with TII's Structures Section, which would include for the following:

1. The designer will be required to arrange for a structural investigations company to undertake structural investigations at the structure to evaluate the foundation level.

2. The implications for the bridge of a new embankment and fish passage adjacent to the structure needs to be investigated, to identify the future hydraulic effects of changing riverbed levels and river flows at the bridge substructure. The designer is advised to refer and implement UK Standard BD 97/12 'The assessment of scour and other hydraulic actions at bridges', and other relevant standards to identify how the proposals will affect the bridge substructure.

3. The designer shall investigate alternative mitigation treatments such as piling or underpinning the bridge, to secure it against the effects of scour, which the works are likely to cause. The effects of changing river flows and changing riverbed levels proposed by the works shall be modelled and calculated to ensure that mitigating bridge works are sufficient to prevent future bridge damage due to scour.

4. TII advise that these treatments would involve significant works to the Fermoy Bridge and a geotechnical investigation of the substrata beneath the bridge would be required in order to design the piling or underpinning solution.

Finally, by way of information, the planning authority is reminded of the requirements of the TII Standard: 'Technical Approval of Road Structures on Motorways and Other National Roads for structures' (TII, 2009, DN-STR-03001). This Standard specifies the procedures to be followed, in order to obtain Technical Acceptance for structures on motorway and other national road schemes and for the submission of as built records. The procedures cover the design of all road structures, including bridges, tunnels, subways, culverts, buried corrugated steel structures, retaining walls, reinforced earth structures, gantries, environmental noise barriers and temporary structures under or over motorways or other roads carrying public traffic.

The Technical Acceptance requirements for the assessment, alteration, modification, strengthening and repair of all road structures shall be agreed with the Structures Engineering and Asset Management Section of TII.

I hope that this information is of assistance to you.

Is mise le meas,

Alban Mills
Senior Regulatory and Administration Executive