Our Case Number: ACP-323980-25

An Coimisiún Pleanála

Development Applications Unit
c/o Julie Sullivan
Government Offices
Newtown Road
Co. Wexford
Y35 AP90

Date: 09 March 2026

Re: Proposed Water Supply Project for the Eastern and Midlands Region
in the counties of Clare, Limerick, Tipperary, Offaly, Kildare, and Dublin.

Dear Sir / Madam,

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

The Commission will revert to you in due course in respect of this matter.

Please be advised that copies of all submissions / observations received in relation to the application will be made available for public inspection at the offices of the local authority and at the offices of An Coimisiún Pleanála when they have been processed by the Commission.

More detailed information in relation to strategic infrastructure development can be viewed on the Commission's website: www.pleanala.ie.

If you have any queries in the meantime, please contact the undersigned officer of the Commission. Please quote the above mentioned An Coimisiún Pleanála reference number in any correspondence or telephone contact with the Commission.

Yours faithfully,

Eimear Reilly
Executive Officer
Direct Line: 01-8737184

PA09

Teil	**Tel**	(01) 858 8100
Glao Áitiúil	**LoCall**	1800 275 175
Facs	**Fax**	(01) 872 2684
Láithreán Gréasáin	**Website**	www.pleanala.ie
Ríomhphost	**Email**	communications@pleanala.ie

64 Sráid Maoilbhríde
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

Muirin Gowen

From: LAPS
Sent: Wednesday, February 25, 2026 4:49 PM
To: Eimear Reilly
Subject: FW: ACP-323980-25
Attachments: water supply project ACP-323980-25.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

From: Housing Manager DAU <Manager.DAU@npws.gov.ie>
Sent: Wednesday 25 February 2026 16:32
To: SIDS <sids@pleanala.ie>
Cc: LAPS <laps@pleanala.ie>
Subject: ACP-323980-25

A Chara,

Please find attached heritage related observations in respect of the above mentioned consultation. Please acknowledge receipt.

Kind Regards,
Cormac O'Flaherty
Higher Executive Officer

Aonad na nIarratas ar Fhorbairt
Development Applications Unit
Oifigí an Rialtais
Government Offices
Bóthar an Bhaile Nua, Loch Garman, Contae Loch Garman, Y35 AP90
Newtown Road, Wexford, County Wexford, Y35 AP90

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

Your Ref: **ACP-323980-25**
Our Ref: **SID-NAT-2025-038**
(Please quote in all related correspondence)

25 February 2026

The Secretary
An Coimisiún Pleanála
64 Marlborough Street
Dublin 1
D01 V902
Via email to laps@pleanala.ie

Re: Notification under the Planning and Development Act, 2000, as amended.

Proposed Strategic Infrastructure Development (SID): Proposed Water Supply Project for the Eastern and Midlands Region

A chara

I refer to correspondence received in connection with the above. Outlined below are heritage-related observations/recommendations of the Department under the stated heading(s).

Archaeology

It is noted that the EIAR submitted as part of the planning application incorporates a desk-based Archaeological Impact Assessment (AIA) which was carried out in relation to the proposed development by IAC Ltd (EIAR Chapter 17; date December 2025).

We note that limited and localised advance archaeological investigations have been carried out within the proposed development site (PDS) to inform the EIAR:

- Advance Geophysical Survey (Detection Device Consents 17R0181 and 17R0243) at Ballyannymore and Ballyanny Lower, Co. Tipperary, Curralanty, Co. Offaly and Peamount, Co. Dublin.
- Archaeological Monitoring of Site Investigations (Licence Nos 21E0306, 21E0506 and 21 E0582) at the Water Treatment Plant and at locations in Counties Tipperary, Offaly and Kildare.

The assessment of the large majority of the PDS has relied on a series of walkover surveys only.

On account of the large scale of the project, the proposed development is located in proximity to a large number of Recorded Monuments—located both within and outside the redline boundary for the development. These Recorded Monuments are subject to statutory protection under Section 12 of the National Monuments (Amendment) Act 1994. While we note that direct impacts to the majority of these sites have been avoided, we note there will still be potential direct impacts on the following Recorded Monuments:

- TN011-022---- (Enclosure) at Knockanacree, Co Tipperary
- TN010-084---- (Settlement deserted – medieval) at Modreeny, Co. Tipperary
- OF019-009---- (Road – unclassified togher) at Ballykilleen, Co. Offaly
- KD009-041---- (Enclosure) at Cooltrim South, Co. Kildare
- KD010-042---- (Enclosure) at Barberstown Upper, Co. Kildare
- DU021-002002- (Field system) at Hynestown, Co. Dublin

The potential effects to these monuments are, in our view, adequately characterised in Chapter 17 of the EIAR and The Department concurs with the proposed mitigation measures set out in relation to them.

The EIAR acknowledges that there is a generalised potential that previously unknown sub-surface archaeological features or deposits may be present within the greenfield and peatland areas of the PDS which may be negatively impacted by the proposed development (EIAR Sections 17.4.2.7 and 17.4.2.8). This is in addition to the specific Areas of Archaeological Potential (AAPs) that have been identified and which may also be impacted by the project (EIAR Sections 17.4.2.1 to 17.4.2.6.7).

The total length of the construction corridor for the Raw Water Pipeline and Treated Water Pipeline will be c. 172km (see EIAR Chapter 4, Image 4.3). For the majority of its length, it extends through peatlands or undeveloped greenfield. The provided typical cross-section for the greenfield indicates that a minimum of a 30m wide section of the construction corridor for the Raw Water Pipeline and Treated Water Pipeline would need to be stripped of topsoil to facilitate the pipeline trench, construction road, pipe working area and other temporary infrastructure (EIAR Appendices Figure 5.27) at any given point along the route. Depending on the construction method adopted, the width of ground disturbance within peatland sections of the construction corridor for the Treated Water Pipeline is unlikely to be substantially smaller (EIAR Appendices Figure 5.27; A5.3 Methods of Working in Peat). Note, at certain locations much more substantive groundworks will be required—in particular where Horizontal Direct Digging (HDD) launch or reception pits are to be located. Topsoil removal (even without deeper excavation to formation level for the pipeline or HDD reception/launch pits) will be sufficient to create direct negative impacts to any previously unknown sub-surface archaeological features or deposits within the pipeline corridor.

The mitigation measures in the EIAR propose that only localised pre-construction Advance Archaeological Geophysical Survey and Advance Archaeological Test Excavation would be

carried out at certain specifically identified AAPs or at known archaeological sites within the PDS (see EIAR Sections 17.5.2.1 to 17.5.2.6.7). These encompass only a very limited proportion of the overall pipeline construction corridor. The majority of AAPs relate to watercourses and Advance Underwater Impact Assessment is only proposed at such locations prior to construction. Comprehensive Archaeological Geophysical Survey and Advance Archaeological Test Excavation is only proposed at the sites for the Water Treatment Plant, Break Pressure Tank and Terminal Point Reservoir (EIAR Section 17.5.2.9). For most of the pipeline corridor the proposed mitigation relies upon construction-stage Archaeological Monitoring (EIAR Sections 17.5.2.7 and 17.5.2.9).

The Department considers that, given the scale of the project and, in particular, the extent of ground disturbance that will be required within the pipeline corridor as a whole, a much more extensive programme of Advance Geophysical Survey, Advance Archaeological Test Excavation and Advance Peatland Surveys should be carried out prior to construction to ensure identification of archaeological remains, and allow adequate time to mitigate impacts. This will also reduce risk to the construction contracts. These further mitigation measures should have a particular focus on the construction corridor for the Raw Water Pipeline and Treated Water Pipeline as a whole, to ensure that there is greater clarity as to the potential presence of previously unknown sub-surface archaeological features or deposits and the likely effects of the project to such material. If such material is present, then additional mitigation measures to ensure the preservation in situ or preservation by record (i.e. full archaeological excavation) of such discoveries will be necessary.

In that regard, we note that the pipeline corridor, as applied for, is 20m wide to facilitate construction flexibility (this is within a typical construction corridor of 50m—see EIAR Chapter 4, Image 4.4). Section 4.3.2 of the EIAR states that the purpose and rationale for such flexibility is to accommodate various unknown site constraints including unknown archaeological features or deposits. This section of the EIAR goes on to state that further site investigations (of all types) at pre-construction stage will inform a confirmed design for construction.

We welcome the inclusion of such flexibility within the proposal and the potential opportunity it provides to avoid or reduce any impacts to previously unknown sub-surface archaeological features or deposits. National policy as detailed in Framework and Principles for the Protection of the Archaeological Heritage (Government of Ireland, 1999) is that there 'should always be a presumption in favour of avoiding developmental impacts on the archaeological heritage' (see Part III pages 23–25). In order for this construction flexibility to be effectively used (where appropriate) to protect archaeological heritage, as is suggested, a much more extensive and comprehensive programme of Advance Geophysical Survey, Advance Archaeological Test Excavation and Advance Peatland Surveys at pre-construction stage is essential. As we have already outlined, this would provide greater detail on the potential location and scale of any previously unknown sub-surface archaeological features or deposits that may be present within the PDS. This would also provide essential information

to inform any confirmed design for construction. We advise that these matters can be addressed by the inclusion of an appropriate condition, if the development is permitted.

Therefore, the Department of Housing, Local Government and Heritage advises that the following should be included as a condition of any grant of permission. Note these recommended conditions align with Sample Conditions C4 and C5 as set out in OPR Practice Note PN03: Planning Conditions (October 2022), with appropriate site-specific additions/adaptations based on the particular characteristics of this development and informed by the findings of the EIAR.

Archaeological Requirements:

1. All mitigation measures in relation to archaeology and cultural heritage as set out in Chapter 17 of the EIAR (date December 2025) shall be implemented in full, except as may otherwise be required in order to comply with the conditions of this Order.

2. A Project Archaeologist shall be appointed to oversee and advise on all aspects of the scheme from design, through inception to completion.
    a. The Project Archaeologist shall liaise with the National Monuments Service and the Planning Authority to agree in advance an overall strategy for archaeological works to be carried out both in advance of and in parallel with construction of the development.
    b. This shall include the scope of any Advance Archaeological Geophysical Survey, Advance Test Excavation, Advance Peatland Surveys, Advance Underwater Impact Assessment and Archaeological Monitoring, as well as any additional mitigation measures that may be required to protect archaeological heritage.
    c. This shall include the location, extent and method of demarcation for any Exclusion Zones around the external-most elements of vulnerable Heritage Assets that are to be preserved in situ (as identified in Chapter 17 of the EIAR or by any subsequent investigations associated with the project).

3. The Construction Environment Management Plan (CEMP) shall include the location of any and all archaeological or cultural heritage constraints relevant to the proposed development as set out in Chapter 17 of the EIAR (date December 2025) and by any subsequent archaeological investigations associated with the project. The CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during all phases of site preparation and construction activity.

4. The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of all archaeological monitoring

and any archaeological investigative work/excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the developer.

Reason:
To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.

The following comments and observations relate to the Underwater Cultural Heritage (UCH) aspects of the development. It is noted that the EIAR submitted as part of the planning application incorporates a desk-based Archaeological Impact Assessment (AIA) (EIAR Chapter 17; date December 2025) that includes assessment of the likely significant effects of the proposed development on UCH. It is noted that the assessment of effects on UCH relies on a series of walkover surveys and no Underwater Archaeological Impact Assessments (UAIAs) have been undertaken on any of the proposed watercourse crossings (Appendix 5.4). It is further noted that 'Potential impacts upon large river crossings (and their potential archaeological contents) have been scoped out as these would be crossed by means of trenchless crossing. These rivers comprise the following: Nenagh River, River Brosna, Silver River, Clodiagh River, Figile River and the River Liffey. The Camor River and Grand Canal have also been scoped out as neither represent natural watercourses. Potential impacts upon the underwater archaeological resource at the abstraction site have been scoped out as water would be abstracted from a man-made body (Parteen Basin)' (EIAR section 17.2.1). Remaining, scoped in, watercourses (Appendix 5.4) have been identified as Areas of Archaeological Potential where open-trench crossings have the potential to impact on UCH. It should be noted that many of these waterways are proximal to Recorded Monuments that are subject to statutory protection under Section 12 of the National Monuments (Amendment) Act 1994, thereby increasing their archaeological potential. Whilst the EIAR does not refer directly to any of these waterways containing wrecks protected by Section 3 of the National Monuments (Amendment) Act 1987, certain examples do contain wrecks that are included in the Wreck Inventory of Ireland Database. It is also noted that many of the waterways have produced archaeological objects.

Notwithstanding the above, the potential effects to the UCH resource are adequately characterised in Chapter 17 of the EIAR and The Department concurs with the proposed mitigation measures - Advance Underwater Impact Assessment and construction stage archaeological monitoring - set out in relation to it (EIAR sections 17.5.2.7 and 17.5.2.9).

Therefore, the National Monuments Service, Department of Housing, Local Government and Heritage advises that the following should be included as a condition of any grant of permission. Note these recommended conditions align with Sample Conditions C4 and C5 as set out in OPR Practice Note PN03: Planning Conditions (October 2022), with appropriate

site-specific additions/adaptations based on the particular characteristics of this development and informed by the findings of the EIAR.

Archaeological Requirements:

1. All mitigation measures in relation to Underwater Cultural Heritage as set out in Chapter 17 of the EIAR (date December 2025) shall be implemented in full, except as may otherwise be required in order to comply with the conditions of this Order.

2. A Project Archaeologist shall be appointed to oversee and advise on all aspects of the scheme from design, through inception to completion.
    a. The Project Archaeologist shall liaise with the National Monuments Service and the Planning Authority to agree in advance an overall strategy for underwater archaeological works to be carried out both in advance of and in parallel with construction of the development.
    b. This shall include the scope of any Advance Underwater Impact Assessment and Underwater Archaeological Monitoring, as well as any additional mitigation measures that may be required to protect archaeological heritage.

3. The Construction Environment Management Plan (CEMP) shall include the location of any and all Underwater Cultural Heritage constraints relevant to the proposed development as set out in Chapter 17 of the EIAR (date December 2025) and by any subsequent archaeological investigations associated with the project. The CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the Underwater Cultural Heritage environment during all phases of site preparation and construction activity.

4. The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of all underwater archaeological monitoring and any archaeological investigative work/excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the developer.

Reason:
To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.

Nature Conservation

The following observations are made by the Department in its role as a prescribed body under planning legislation and as the authority with overarching responsibility for nature

conservation and the nature directives (i.e. the Birds and Habitats Directives) and wider biodiversity.

These observations are intended to assist the planning authority in meeting obligations that may arise in relation to European sites (Natura 2000 sites) in the context of the proposed development. In relation to European sites (Special Areas of Conservation (SACs); Special Protection Areas (SPAs), the Department places particular emphasis in its observations on the level of detail contained in the screening for Appropriate Assessment (AA) and Natura Impact Statement (NIS). An AA determination must contain complete, precise and definitive findings and conclusions with regard to the implications of a proposal for the conservation objectives and integrity of a European site.

The Department welcomes and acknowledges the effort that has been undertaken to avoid highly sensitive habitats and species at the outset of the project, following the mitigation hierarchy. However, the Department has a number of comments/recommendations below regarding some important outstanding issues, including those which need to be taken into account in the Appropriate Assessment and EIA.

These are, in summary:

Co. Tipperary: water pipeline & electricity powerlines

1. Effects on otters (Co. Tipperary);
2. Effects on whooper swans;
3. Mitigation for habitat loss (local continuity);
4. Effects on lesser horseshoe bats;

Cos. Offaly & Kildare: water pipeline, booster pumping station and flow control valve

5. Effects on Lisduff Fen SAC;
6. Effects on White-Clawed Crayfish;
7. Effects on River Little Brosna Callows SPA;
8. Effects on Otter (Cos. Offaly & Kildare);
9. Bats
10. Effects on Marsh Fritillary;
11. Effects on Hen harrier;
12. Effects on Molluscs;
13. Determining Ecological Significant Effects

Co. Tipperary: Water abstraction and Treatment

14. Verification of maximum extraction rates during severe droughts;

15. Effects of extended duration of low water during severe drought, and reduced duration of high water (non-flood peak) events, in Lough Derg;
16. Decommissioning of disused petrol station near Kilmastulla River;
17. Effects of any future emergency discharges from the Water Treatment Plant;
18. Effects of barriers to fish connectivity in River Shannon;
19. Raw water infrastructure construction disturbance effects on wintering birds in Parteen Basin (incl. from Lough Derg);
20. In-combination and cumulative effects in the hydrological model.

Co. Tipperary: Water pipeline and electricity powerlines

1. Otter (Annex II species and QI species for Lower River Shannon SAC)

Although the application for a Regulation 54 derogation licence for Otters is only concerned with three holts within the works area (presumed to be the red line boundary) – of which one is in the Kilmastulla area, the survey results record twelve additional holts within 150m of the proposed works, as well as Otter signs including couches at the watercourse crossings. Of the additional holts, two are in the Kilmastulla area and are 18m and 25m from the works boundary respectively. Since they also have significant potential to be disturbed by the proposed works, a Regulation 54 derogation licence will be required for these additional holts. Since no further details have been provided on the couches, the likelihood that a derogation licence will also be required for disturbance to these resting places cannot be ruled out. The EIAR should include a detailed basis for their non-inclusion in a derogation licence application, if this is the case.

The three holts recorded in the Kilmastulla area over the survey period, in close proximity to each other, indicate a relatively high level of Otter activity here. It is noted that although the Otter survey covered the period from 2016 to 2025, the Kilmastulla holts were recorded in 2016 and 2018. If they have not been resurveyed since, then, apart from the potential for change in their recorded status (ie active/inactive), the level of Otter activity they seem to represent indicates that there may at this stage be additional holts of more recent origin in the vicinity. The system of holts in the Kilmastulla area, and the fact that these are likely to provide supporting habitat for the Otter population in the Lower River Shannon SAC (of which Otter is a Qualifying Interest species) needs careful consideration in relation to the potential for disturbance from the proposed works, taking into account (as well as the pipeline) the two significant infrastructure elements of the project proposed for the general area.

A particular concern here is the proposal for removal of 150m of riparian habitat upstream (to facilitate a watercourse crossing) near the holt at TW-700; the extreme proximity (20m) of this holt to the works footprint (which, apart from noise disturbance, may render it unviable due to removal of cover), and the lack of targeted mitigation (apart from the erection of screening (unspecified) which is unlikely to mitigate effectively against noise or vibration). While consideration has been given at a broad scale to habitat reinstatement post-construction, it would be expected that measures would be proposed for ensuring continuity of habitat connectivity in keeping with the Conservation Objective for Otter for the SAC (for

example, creation or preservation of an alternative sheltered route) in the short to medium term, especially as Otter access to the recorded holts at TW-900 and TW-1400 involve their commuting further upstream.

The proposed time period for confirmatory pre-construction surveys (maximum of 10 to 12 months in advance of works) is too loose, and given the level of local Otter activity, and the known existence of three holts and potential for switching between them, is not considered acceptable unless followed up by a survey immediately prior to commencement of works in the area, as specified in the NRA (now TII) guidelines. This survey should be sufficiently comprehensive to be definitive, and if breeding cannot be ruled out, a precautionary approach is required.

2. Whooper Swans (Annex I species)

The Department is aware of a flock of Whooper Swans (currently over 20 birds) which regularly feed in a field north of the Kilmastulla River, approx 600m due north of Birdhill. The potential for disturbance and displacement of this flock from the proposed works; and in particular the proposed horizontal directional drilling at watercourse crossing WCX077 (less than 400m away), will need to be assessed, as will the risk of collision with the upgraded 38kV power line to the south. (It is noted that the current collision risk assessment is based on infrequent sightings of low numbers of Whoopers in this area, rather than on their susceptibility to collision, which is high (Table 8.50).

3. Mitigation for habitat loss – importance of local continuity

While the eventual restoration of landscape-scale connectivity has been considered and like-for-like replacement planting has been proposed "where feasible", it is important that local connectivity at strategic locations is maintained both temporally and spatially. This is particularly important in relation to the uninterrupted preservation of existing levels of connectivity around, for example, holts and other areas of high Otter activity; the proposed replacement Lesser Horseshoe roost and all surrounding potential foraging habitat, as well as other areas where high levels of bat activity have been recorded including riparian areas. It should also be an important consideration in selection of the proposed locations of artificial setts, given the high degree of overlap of the works footprint with existing Badger territories and the anticipated need for multiple sett closures.

This may mean that interim measures including small-scale earthworks and landscaping, and local alterations to the proposed phasing sequence, as well as advance planting to ensure alternative pathways are available may need to be implemented locally in certain situations, to avoid short to medium term interruptions to connectivity before mitigation planting becomes effectively established.

4. Lesser Horseshoe Bat (Annex II species)

The cottage at Inchabeg proposed to be demolished (to allow for the construction of the Water Treatment Plant (WTP)) has been identified as a night roost for Lesser Horseshoes, as well as a day roost for Brown Long-eared and Natterer's Bats. This was determined on

the basis of 19 nights' static detector recording and five emergence surveys over a six year period (2019 to 2025), although confined to a seven-week period covering the main breeding season (late May to early July) i.e. it was not surveyed in any year outside of this time period, with the exception of a single emergence survey in early August 2020.

It is accepted that this site only forms a small part of the total project survey area, and the extremely comprehensive overall survey methodology and effort, and detailed survey report, is acknowledged. However, while the survey has effectively ruled out the current use of the cottage by Lesser Horseshoes as a maternity roost, the possibility remains for the building to be used as a seasonal or transitional day roost, or as a more frequently used night roost outside of the main breeding season (i.e. outside of the coverage of the survey period). It could also be more frequently used as a night roost at other times of the year (for example in early autumn when young bats are foraging independently and able to fly longer distances, and adult females can forage at a greater distance from their original maternity roost).

Therefore although the cottage is currently classified as a night roost, its roosting potential throughout the rest of the year is unknown. However the recording of even night roosting activity of Lesser Horseshoes at this site is significant, located as it is towards (but still within) the eastern periphery of their currently-known range of occurrence in the East Clare/northwest Tipperary region, a range which appears from recent evidence to be expanding eastwards in this area.
The proposal to build a replacement roost building presents a valuable opportunity therefore to facilitate ongoing and future range expansion by providing a structure with long term potential to become a significant roost base. This potential is increased by the connectivity and apparent foraging quality of the surrounding landscape, which contains a high density of small fields and well developed network of hedgerows, and, particularly to the south, frequent patches of woodland cover, as well as riparian habitat.

On a larger scale, the location is strategically important due to genetic evidence for the existence of four distinct meta-populations over the species' range, which are at risk of becoming increasingly isolated. For example, there appears to be a division between the South Galway-Clare population and the Limerick population; and since the current site is close to where this division occurs, it would seem to be well situated to help maintain connectivity between these two meta-populations. Limerick City presents significant barriers to connectivity and although Lesser Horseshoes occur within and around the city, their commuting corridors are often heavily constrained and vulnerable; so the establishment of an alternative axis to the northeast would increase landscape resilience against the threat of population fragmentation and isolation.

Taking the wider population issues into account, and also due to the unknown roosting potential of the existing building outside of the breeding season, and the desirability of facilitating continued range expansion eastwards, it is recommended that the replacement roost is of adequate dimensions to accommodate a significant maternity colony as well as being suitable for almost continuous year-round occupation. Current best practice mitigation

guidelines recommend matching the dimensions of the existing roost as far as possible, or a minimum area of 5m X 4m and height of 5m. This would allow for a greater range of microclimatic options for the bats depending on the season, and also provide additional space, for example, for young bats training to fly initially inside the roost , or for light sampling flights in and out of the roost entrance immediately prior to emergence, particularly when a number of bats are present.

For these reasons, The Department recommends that the proposal is modified so that the dimensions of the replacement roost are increased to more closely match those of the building that it will be replacing, while retaining the current detailed design specifications (including for other bat species) which have been clearly described. The increased footprint should also allow for the inclusion of an insulated "cool room" as part of the lower level. The replacement roost should be viewed as an exceptional opportunity for long term investment in roosting resources to improve resilience and connectivity in the Lesser Horseshoe population at local and regional level.

However, due to the proximity of the proposed WTP, it is crucial that neither the replacement roost itself, or its connectivity with foraging areas, is compromised by lighting or noise from the WTP. In this regard, the detailed and specific planting mitigation that has been proposed is welcome. However, the use of solid screening along the southern boundary of the planted area is also recommended, particularly necessary while the planting is establishing, and on an ongoing basis to provide screening in winter from lighting from the WTP. The screening should be sufficiently robust and suitable to allow colonisation by Ivy, the establishment of which could be actively facilitated. Both Ivy, and Holly (of which a high proportion in the general planting mix is recommended) will provide shelter and local foraging cover in late autumn and winter when other foliage cover is absent. Early establishment of planting in locations where it does not impede the construction of the new roost would be useful.

The preservation of connectivity to the south, and particularly to the plantation immediately south of the proposed WTP, is an important consideration. This is likely to require additional planting in a north-south alignment along at least one side of the site to provide a sheltered commuting corridor, and again permanent solid screening, in conjunction with highly sensitive lighting design, may need to be installed, given the extreme light sensitivity of Lesser Horseshoes and the scale of the adjacent WTP. Likewise, mitigation may be needed along the southern edge of the site to avoid light penetration into the adjoining plantation.

In terms of post-construction monitoring; due to the fact that the original roost building will still be available for at least the first year following construction of the new roost, and in order to gather longer term data to inform future evidence-based mitigation proposals, it is recommended that monitoring is continued for a five year period. This will also allow longer term monitoring of the success of vegetation establishment (and intervention/replacement planting where necessary) and a longer period post-construction (and potentially post-commissioning) of the WTP in order to address any unforeseen outstanding lighting issues.

Co. Offaly & Kildare: Effects of water pipeline, booster pumping station and flow control valve.

5. Effects on Lisduff Fen SAC

The Proposed Project is located 490m east of Lisduff Fen SAC. Table 6.2 of the NIS identifies that there is potential for habitat degradation as a result of hydrogeological impacts on Lisduff Fen SAC due to the following reasons "Area within the Proposed Project footprint and any aquatic/GWDTE habitats downgradient" and or "Development within GWDTE zone of contribution and hydrogeological ZoI of groundwater dependent habitats and/or within 200m upgradient of the Proposed Project". However, within Section 7.2.3 of the NIS, it is stated that "Lisduff Fen SAC (and potential ex-situ sites) also lies beyond the ZoI of any hydrogeological or disturbance/displacement impacts". This SAC is designated for Petrifying Springs [7220], Alkaline Fens [7230] and Geyer's Whorl Snail [1013]. The reasoning provided in Paragraph 981 which rules out hydrogeological impacts from the Proposed Project on Geyer's whorl snail and petrifying springs, is acknowledged and reasonable; however no such explanation is provided for the Alkaline Fen habitat (which is also a groundwater-dependent terrestrial ecosystem), and it is not discussed in the subsequent information. The Alkaline fen habitat within the SAC is not mapped in detail within the Conservation Objectives document (NPWS, 2019), but it is noted that the majority of the SAC comprises of very wet alkaline fen. The Department recommends that further information on the potential for hydrogeological impacts on the Alkaline fen habitat within Lisduff Fen SAC is provided, and mitigation measures proposed if impacts are identified.

6. Effects on White-Clawed Crayfish

The Proposed Project crosses the River Figile which is upstream of the River Barrow and River Nore SAC, and is designated for white-clawed crayfish. Works at this location include instream works, and therefore, white-clawed crayfish are potentially at risk of injury or mortality from heavy machinery/vehicles required for the pipeline installation. The potential impact of mortality on white-clawed crayfish does not appear to have been assessed within the NIS, despite the impact being assessed for other QI aquatic species. The Department recommends further information is provided on this.

7. Effects on River Little Brosna Callows SPA

The River Little Brosna Callows SPA is located 10km from the Proposed Project, and as such direct impacts on the SPA can be discounted. However, suitable areas of habitat within the Zone of Influence of the Proposed Project could provide ex-situ supporting habitat for the wintering species this SPA is designated for. As is noted in the NIS, some species such as lapwing, golden plover, and black-headed gull can travel significant distances for foraging and roosting. Significant habitat changes or increased levels of disturbance within areas of suitable habitat outside the SPA could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers. A Conservation Objective target for the SPA is to have sufficient area of utilisable habitat available in ecologically important sites outside the SPA.

The following is noted in relation to ex-situ impacts:

"Considering a buffer of up to 20km to encompass lands potentially used by some of the special conservation interest species outside of River Little Brosna Callows SPA, this covers an area of more than 1,500km^2. Of that area, the Proposed Project would directly impact c.9km^2 of habitat, the majority of which (c.6km^2 or approximately 66%) is improved agricultural grassland with a further c.1km^2 classified as cutover bog. However, all habitat loss and potential disturbance impacts within 20km of the Proposed Project would be temporary (up to 18 months) with all of the habitat affected by the pipeline installation works to be reinstated post-construction, and reinstated habitat would likely continue to be managed by the landowners in line with its current agricultural use".

The 20km buffer zone covering an area of more than 1,500km^2, does not differentiate between areas of suitable habitat and unsuitable habitat for these wintering SCI species. Therefore the assessment that only 9km^2 of improved agricultural grassland and 1km^2 of cutover bog will be directly affected by the Proposed Project may be underestimating the amount of suitable habitat that is actually present to support these species. It is also not clear whether this 10km^2 includes a 300m disturbance zone buffer, which is generally considered to be the disturbance zone of influence on birds as a result of construction works. Furthermore, the impacted habitats, i.e. agricultural grassland and cut-over bog, are highly relied upon by these species due to predator avoidance behaviour where they prefer open habitats with little tree/hedgerows nearby that could provide perches for predators. The Department recommends that the potential for ex-situ disturbance and habitat loss impacts on the River Little Brosna Callows SPA be reassessed to take into account the availability of suitable habitat in the wider landscape. It is also stated in the Biodiversity Chapter of the EIAR that the land would be reinstated after 24 months, as opposed to 18 months which is mentioned above: "It is therefore reasonable to conclude that a section of land exposed to construction activity (associated with pipeline installation) would be reinstated within 24 months". This requires clarification.

8. Effects on Otter

The Department notes that three otter holts are within the Proposed Project site and will be disturbed as a result; therefore these otter holts have been included in a derogation licence application under Section 54 of S.I. 477 of 2011 submitted to this Department. However; it is noted that a further 12 otter holts have been identified within 150m of the Proposed Project, with one holt located in Derries, Co. Offaly, noted to be located 1m from the Proposed Project, as per Table 8.39 in the Biodiversity Chapter of the EIAR. It is unclear why these 12 holts were not considered to be within the Zone of Influence of the Proposed Project of potential disturbance related impacts, despite being within 150m of the proposed works. The disturbance zone of effects on otter is generally considered to be 150m, as per the NRA (2008) guidance, which also states "Derogations are also required for any works likely to cause disturbance (e.g. piling and blasting) to active breeding holts (when present within c.150m of a scheme)." It is also noted in the EIAR in Section 8.5.2.4.3 that "there are 12 otter

holts (including both active and inactive holts) located outside of the Proposed Project but within the wider study area. Of these, four (i.e. active non-breeding holts within 20m of works that involve tracked vehicles or active breeding holts within 150m of the Proposed Project) may be subject to temporary disturbance/displacement effects as a result of noise and vibration associated with construction activities"; which suggests four of these 12 holts are either active and/or active breeding holts. Mitigation proposed in Section 8.8.2.4 references the NRA (2008) guidelines, stating that "no works will be undertaken within 150m of any holts at which breeding females or cubs are present" and pre-construction surveys are also proposed for "no more than 10-12 months in advance of construction".

Further clarification is required on why these other 12 otter holts are considered to be outside of the zone of influence of the project, given these holts could become breeding holts at any time between the surveys and construction. The Department also recommends the pre-construction survey is undertaken no more than one month prior to works, at all of the locations where otter holts were identified within 150m of the Proposed Project, to establish if breeding has taken place.

The River Shannon Callows SAC is hydrologically linked to the Proposed Project via the Little Brosna River where a watercourse crossing is proposed (WCX026). An otter holt was identified in this location. However, the only impact identified on QI otters from the River Shannon Callows SAC is related to water quality. Given the level of disruption required for the proposed works and the distance otters can travel from their home range, disturbance related impacts and mitigation measures for the River Shannon Callows SAC otter population should also be included.

9. Bats

A significant amount of hedgerow and treeline habitats are proposed to be removed for the Proposed Project over a very large area; and whilst some of this will be replanted, it is proposed to replant post-works. However, there will still be a way-leave of 20m where trees cannot be re-planted due to potential impacts on the pipeline structure. The following is stated in Paragraph 981 of the Biodiversity Chapter of the EIAR "In areas where the removal of linear habitats may impact on the flight lines of local bat populations, temporary screens will be required to provide alternative commuting paths until new planting is sufficient in height". There is no detail provided on what these temporary screens will include, and if they will be used in the way-leave area; therefore it cannot be ascertained whether bats will actually use these features or not with no evidence provided to support this mitigation. Bats generally prefer commuting along features that include trees, and therefore this might present a barrier for local bat species. It is also not clear whether surveys and/or static detector deployments have been undertaken at these locations where there will be gap for a period of time over multiple breeding seasons, to determine the importance of these commuting and foraging features for bats. The Department recommends further detailed information is provided on the potential for permanent fragmentation of habitat for commuting and foraging bat species.

Pre-construction surveys are proposed for any trees that have been identified as potential bat roosts (PBRs) "Trees identified as a PBR and proposed to be felled will be re-surveyed (dusk survey coupled with night-vision aids). This will be undertaken at least one month prior to tree felling in order to propose a tree felling plan in conjunction with tree contractors. Trees with roosting features (e.g. dead wood, tree holes) will be physically checked prior to felling (using an endoscope and high-power torch) or a dusk/dawn surveys completed to determine if bats are roosting within". Bats can enter roosting features at any time between the surveys and felling, and therefore by doing surveys a month before, there is potential that bat roosts will be missed. Therefore, the Department recommends that any trees with potential roosting features should be resurveyed no more than a week before felling, and any trees with roosting features should be inspected at height with either a Mobile Elevated Working Platform (MEWP), or by a qualified tree-climber immediately before removal. If bats are identified, works must cease immediately and the National Parks and Wildlife Service of the Department be contacted. In Paragraph 977 of the Biodiversity Chapter it is proposed that "all mature trees in need of removal that have been identified as having a moderate to high PBRs will be felled in the autumn or spring months during mild weather in order to avoid any breeding populations". More detail on the specific timing is required here. Felling of trees with potential bat roosts should not occur between November – February due to colder temperatures and the potential for hibernating bats, unless absolutely necessary. If unavoidable, temperatures must be above 10°C.
Tree trimming is also proposed during the operational stage for any overhanging trees above the pipeline. Prior to any trimming, these trees should also be checked for any potential bat roost features within the limbs by the ECoW.

10. Effects on Marsh Fritillary

Marsh Fritillary is categorised as 'Vulnerable' under the Red List of Irish Butterflies, meaning it is considered at high risk of extinction, and is Ireland's only butterfly listed on Annex II of the Habitats Directive. Marsh fritillary butterflies exist in a metapopulational structure, i.e, individual colonies, or populations, that are spatially separated yet interact with one another on some level. Survival and persistence of the metapopulational structure relies on there being a sufficient network and density of interconnected suitable habitat areas, so that colonies can interact and recolonise new habitat patches in response to frequent local extinctions. Local extinction events can occur due to changes in habitat management and condition, weather, resources and interspecies competition and/or parasite infestations. When assessing impacts on marsh fritillary, given the population structure of the species, it is vital to consider the areas of suitable habitat, as well as areas where larval webs were recorded.
Marsh fritillary was identified in a number of locations across the Proposed Project, and therefore "would likely result in both the temporary (approximately 13.22ha) and permanent (approximately 3.4ha) loss of marsh fritillary typical habitat". This will result in habitat fragmentation, not only within the suitable habitat patches but amongst the local network of suitable habitat areas supporting the marsh fritillary metapopulation. There has been no assessment undertaken on the amount of suitable habitat within the wider environment, and whether this loss of habitat will result in a loss of local populations and/or habitat

fragmentation of metapopulations. This species generally do not travel long distances, only travelling 1-2km between habitats. Changes in the surrounding environment, such as change in land management, development, flooding etc. must also be considered when assessing impacts and level of significance on this species as a result of the Proposed Project. The Department recommends further information is requested on the potential impacts on the marsh fritillary population as a result of habitat loss and habitat fragmentation from the Proposed Project.

It is also proposed to translocate larval webs if they are identified during pre-construction surveys. Very little information is provided on the detail of the potential translocations, and where they will be translocated to, and how they will be translocated. The Department recommends this mitigation measure is expanded upon with more detail provided, ensuring any measures proposed are supported by evidence-based studies.

11. Effects on Hen harrier

It is noted that no hen harrier roosts were identified within 500m of the Proposed Project, and the species was only noted infrequently using the wider surroundings during surveys. The Proposed Project traverses through suitable roosting habitat for this species (i.e. heathland), of which there will be a temporary and permanent loss. The Department is aware of a winter hen harrier roost to the south end of Esker Bog (Ballina Wind Farm ACP Ref: 323579), and within the Zone of Influence of the Proposed Project. However, as hen harrier were not observed during the surveys, significant effects have been discounted for this species. It does not appear from a review of the Vantage Point locations that this area was surveyed. Hen harriers can use multiple roost sites across a season or across years, depending on prey abundance, disturbance, or weather; but they can also be faithful to roosts across multiple years. As is noted in the EIAR, hen harrier have experienced dramatic declines across the country, and any disturbance on this species over multiple winter seasons may be considered significant. The Department is concerned that potential impacts have been considered not significant by the applicant, particularly given the amount of suitable hen harrier roosting habitat removal that is proposed for the Proposed Project, and as a winter roost was missed during surveys. Determining the level of significance must be undertaken by quantifying the extent, quality and function of the habitat being removed and/or disturbed, and must assess whether these areas could or already do support wintering hen harrier. The cumulative effects alongside existing pressures being experienced by the species must also be taken into account. The Department recommends that in order to complete assessments, further information in relation to communal hen harrier winter roost in the vicinity of the Proposed Project is required.

12. Effects on Molluscs

Dedicated surveys for terrestrial molluscs within the zone of influence of the Proposed Project were last undertaken in 2020, and included six wetland sites in Co. Kildare and Co. Offaly. It is stated in Section 8.2.5.1.3.2 that "Surveys were not repeated at these sites as no suitable habitat was found, and/or no signs of the target Vertigo species". For areas that did have suitable habitat but no species were identified during the survey in 2020, repeat surveys should have been undertaken to determine if any Vertigo sp. had spread into the habitat

since the survey more than 5 years ago. The Department recommends that repeat surveys are undertaken in these areas.
Furthermore, Vertigo sp. are sensitive to changes in water quality, particularly Vertigo moulinsiana and Vertigo angustior as they rely on consistent high humidity, base-rich conditions, and unpolluted ground and surface water. A deterioration in water quality, such as nutrient enrichment, sedimentation, and pollution events, can reduce the availability of suitable habitats and even effect physiological processes such as shell formation. Potential impacts from the Proposed Project on molluscs from changes in water quality has not been considered. The Department therefore recommends further information is provided on the potential for direct and indirect impacts on Vertigo sp. from changes in both surface and ground water quality.

13. Determining Ecological Significant Effects

Significant impacts on the local mammal population from the Proposed Project has been discounted, and the removal of approximately 40.1km of treelines, 46km of hedgerows (including mosaics), 16ha of woodland habitats, and 31ha of bog woodland (including mosaics) are considered to be significant at the 'Local Geographic Scale' only. It is unclear how these conclusions were reached as little explanation or justification is provided. It appears as though the assessment has not taken into account the cumulative effect of all of the habitat removal that is proposed for the Project itself, and also habitat removal and destruction that occurs due to land management changes, development, severe weather etc. Hedgerows, treelines and woodland habitats, are vital habitats for a range of species in a severely degraded landscape, providing important links between habitats and refuge sites. The assessment for determining significance must take into account the remaining habitat in the local area in the first instance, but also in the wider landscape due to the length and scale of the Proposed Project. It is recognised that planting is proposed to replace some of this loss, however it will be a number of years before the proposed planting will become established enough to replace what has been lost. There will also still be a residual and permanent loss of hedgerows, treelines and woodland habitats as a result of the Proposed Project, resulting in a net loss of habitat. This does not appear to have been considered sufficiently for both habitats and species, where a precautionary approach should be followed.

Co. Tipperary: Water abstraction and Treatment

Water is proposed to be abstracted from the River Shannon at Parteen Basin, the raw water abstraction point being within the Lower River Shannon Special Area of Conservation (SAC no. 2165) (Fig. 3.2, p. 54 of the Natura Impact Statement (NIS)). The existing R494 access road also crosses the Kilmastulla River part of the above SAC at Knockadromin (Watercourse Crossing WCX077 in Fig. 3.2). The existing R455 access road also crosses just above the end of the Kilmastulla River part of the SAC at Greenhills and Lackanavea townlands (Watercourse Crossing WCX001 in Fig. 3.2), with the new access road crossing (Watercourse Crossing WCX002 in Fig. 3.2) approx. 50m upstream of the SAC at Greenhills. The WTP is also hydrologically within the catchment of the Kilmastulla River part of the SAC. The proposed construction of the abstraction infrastructure in, and adjacent to, Parteen

Basin, is within, and adjacent to, a water-body used by wintering birds which disperse from Lough Derg (Shannon) Special Protection Area (SPA no. 4058), especially during periods of high winds on the lake.

14. Effects on severe drought low water level duration in Lower River Shannon SAC – verification of maximum water abstraction rates

The Natura Impact Statement (NIS) states (p. 244, para. 905) that the abstraction will be "accurately verified and measured by flowmeter on the RWRM [Raw Water Rising Main]." That the maximum abstraction is not exceeded during severe droughts is clearly a requirement for the reliability of the predictions of no adverse effects on water levels upstream and downstream. However, the question of how precisely the flowmeter can be relied upon for verification needs further detail. Will it be sealed? Will prescribed authorities have access to inspect it? Will there be any concomitant drought monitoring of ecological parameters in the downstream Old River Shannon, or upstream north-east shore of Lough Derg (e.g. water flow, water temperature, wetland soil moisture deficit)?

15. Effects on severe drought low water level duration, and reduced duration of high water (non-flood peak) events, in Lough Derg North-east Shore SAC

As mentioned in the NIS (p. 367), Lough Derg north-east shore SAC is over 22km upstream of the proposed development, but contains a number of habitat types dependent of the water level regime in Lough Derg as maintained by the ESB at Ardnacrusha and Parteen Weir. These include (a) calcareous fens with Cladium mariscus (a priority habitat), (b) alkaline fens, and (c) alluvial woodland (another priority habitat). It is a conservation objective to maintain the favourable conservation status of these fen habitats .

It is worth citing paragraphs 809 and 903 of the Natura Impact Statement (NIS) to put this question in context (italics added):

"Climate change simulations for a 'reasonable worst case' scenario for the 2080s epoch with the inclusion of the Proposed Project indicate that simulated Lake levels would draw down closer to the bottom of the Normal Operating Band during the 2018 worst drought event. However, the additional simulated Lake level drawdown is still fitting within the range of ESB normal observed Lake level fluctuations, resulting in *Lake levels* still remaining within the Normal Operating Band on Lough Derg and within the upper and lower water levels that ESB apply to Parteen Basin..." [Para. 809].

"The Lake level regimes are only simulated to be affected by the proposed abstraction during extreme drought periods (1995 and 2018) and in the days immediately after the drought (*up to a week*) when inflow is needed to replenish any deficit in storage caused by the Proposed Project." [Para. 903].

The point made by the NIS is that the normal minimum water levels would be maintained, even in a drought more severe than that in 2018. However, the duration of the minimum water levels in the Lower River Shannon are likely to be extended, taking into account also

that it may take a week for water levels to increase after the end of the drought (NIS, paras. 788 & 903). While the duration of water levels is considered as an ecosystem function issue for Lisduff Fen SAC (p. 303 of the NIS), it needs more consideration in the assessment for the Lough Derg north-east shore SAC.

The NIS (p. 367; para. 1106) states that the "lowermost [Lough Derg] levels recorded naturally, pre-abstraction, were substantially the same as the model predicted levels post abstraction in August 2018 (EIAR Appendix 9.1, of Chapter 9: Water)". In para. 1107, the NIS states that the predicted lake levels will be "barely distinguishable from the baseline case when viewed on level flow/duration curves". The NIS does not cite the location of the data in Appendix 9.1.

Image 2.6 (p. 13) of Appendix 9.1 (Abstraction Assessment), shows a distinct extension in the duration of both the Spring and Summer drawdowns (albeit by only 0.1m). Given the reverse-of-natural water level management of Lough Derg (raising in summer; lowering in winter), this extended duration of drawdown may actually be beneficial to the fen in the Spring. However, it needs expert ecological assessment to ensure the assessment is complete.

Of equal concern is the shortening of the duration of many of the winter high water events, as shown in Images D1 – D13 in Appendix 9.1. Shorter duration flood events could result in greater scrub survival and colonisation of lake-shore fen habitats. This needs further assessment also.

16. New WTP access road crossing near Kilmastulla River : Decommissioning of disused petrol station

In Chapter 9 of the EIAR (water), mention is made of a new bridge crossing of the 'Roran watercourse', but without a cross-reference to any map (Subsection 9.4.2.4.2, paras. 179, 182 & 185). However, from its name (referring to the townland of Roran on the south slope of the Arra Mountains), and its description (a tributary of the Kilmastulla River), this is assumed to be crossing WCX002 c. 50m upstream of the Kilmastulla River part of the SAC at Greenhills (see Fig. 3.2, p. 54 of the NIS). In the NIS (para. 180) this appears to be referred to as the 'Knockadromin Stream', although Knockadromin is a townland to the west of here, with a separate boundary stream draining into the Kilmastulla River. Again, there is no reference in this NIS paragraph to any site drainage map. It is assumed below that this is an error, and it should refer to the 'Roran watercourse' as used in the water EIAR chapter.

In para. 182 (EIAR, Chap. 9 (water)), the potential for a very significant adverse effects is stated, due to the occurrence of a disused petrol station near the crossing point. Although no hydrocarbon contamination was found in soil samples taken near the proposed bridge, nevertheless the mitigation measures proposed (EIAR, Chap. 9, para W-SC27), which involve groundwater removal from the tank and backfilling, do not appear to address the potential for oily sludge to be present at the base of the tank. In the NIS (para 180), it is stated that "the tanks are located within 1m of the Knockadromin Stream [sic]", indicating that

leaving these tanks in situ may result in residual risk of adverse effects. The proper decommissioning of this potential pollution source, as opposed to infilling it, needs to be considered.

17. Effects of any future emergency discharges from the Water Treatment Plant

The proposed WTP at Inchabeg is within the catchment of the Kilmastulla River part of the Lower River Shannon SAC. WTP sludges can have high Biological Oxygen Demand (BOD) and high aluminium concentrations. (The Department had concerns at pre-planning stage regarding impacts from WTP discharges, and possible long-term on-site sludge storage, on the Kilmastulla River. It is noted from the NIS (Subsection 3.8.3, para. 466) that the WTP will be a closed system (i.e. no process water discharges to surface waters), and from the EIAR also that stored sludge (estimated at 18,560m^3/ann.) will be periodically removed to, as yet unknown, recovery options or non-hazardous landfill(s) (Subsection 19.4.3.2.1, para 2.2.7). However, it needs to be established (a) that any unforeseen process difficulties do not result in emergency discharges, and (b) that any unavailability of offsite recovery/disposal options do not result in emergency on-site sludge storage where run-off could be an issue.

18. Barriers to connectivity: Salmon and lamprey species

The conservation objective for salmon in the Lower River Shannon SAC is to restore its favourable conservation status, including a target of "100% of river channels down to second order accessible from estuary". The note to this target states that the "large hydroelectric station at Ardnacrusha and the Parteen regulating weir present considerable obstructions to upstream passage of salmon on the Shannon main channel" and that "while both have fish passes installed, upstream migration of salmon is still problematical". Similarly, for sea lamprey (Petromyzon marinus), the conservation objective is to restore favourable conservation status, including a target of "greater than 75% of the main stem-length of rivers accessible from the estuary".

The Shannon Connectivity Project, as part of the Shannon River Basin District Plan, has developed a number of options to improve connectivity for fish species. As responsibility for fish conservation rests with Inland Fisheries Ireland (IFI), it is recommended that advice in relation to effects on salmon and lamprey species, and the connectivity within the SAC, is obtained from IFI.

19. Raw water infrastructure construction disturbance effects on wintering waterfowl in Parteen Basin (incl. from Lough Derg SPA)

The EIAR (pp. 356-359, Table 8.77) identifies potential significant effects of construction on 12 bird species occurring in Parteen Basin, including three of the four species to which the conservation objectives of Lough Derg SPA apply (cormorant, goldeneye, tufted duck). The mitigation measures to avoid these potential significant effects are that the "Main construction works will be carried out outside of winter period – water" (EIAR, p. 473, Table 8.85). It is recommended that this mitigation measure is reworded, and included either in a Schedule of Commitments that will form part of the contract tender, or as a planning condition, to allow for the following: 'Main construction works within Parteen Basin water-body, piling within

100m of Parteen Basin, and any construction works which generate sufficient noise to flight-disturb wintering waterbirds on Parteen Basin at a distance of 150m, will be carried out outside of the period 15 September to 15 March'.

20. In-combination (AA) and cumulative (EIAR) effects in the hydrological model

Without having fathomed all of the documentation, this part of the assessment may have been missed, but it is an important question for both the AA and EIAR. The following crude balance sheet raises the question as to whether additional upstream increases in water abstractions or drainage could influence the result of the model predictions:

Increased abstraction / drainage	Decreased abstraction / storage
Proposed abstraction	Ardnacrusha (compensation)
Upstream abstractions	Catchment storage
Proposed eflow plan	
Catchment drainage	

For instance, in the Regional Water Resources Plan – Eastern and Midlands (Uisce Éireann, NIS, 2022 : p. 73), there are options for increased abstractions from the River Shannon system for water supply to Athlone and Ballinasloe. However, the deficit required to be made up (p. 73) appears to be very low (c. 0.07 cumecs). Adding the deficit at Carrick-on-Shannon (c. 0.06 cumecs), cited in the Regional Water Resources Plan – North West (Uisce Éireann, SEA, 2023 :p. 62), this gives an approximate total of 0.13 cumecs for these three towns. This total (0.13 cumecs) appears to represent c. 3.7% of the proposed 3.47 cumecs abstraction at Parteen.

In the event that additional heritage-related observations become available before the deadline date, a further letter will issue.

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

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

Is mise, le meas

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Julie Sullivan
Assistant Principal
Development Applications Unit
Administration