



Comhairle Contae Mhaigh Eo
Mayo County Council



OPW

River Deel (Crossmolina) Drainage Scheme



Response to Request for Supplementary Information, by the Department of Public Expenditure and Reform

Pursuant to Section 7(B) Sub-Section 4 of the 2019 European
Union (Environmental Impact Assessment) (Arterial Drainage)
Regulations

July 2021



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1. INTRODUCTION

This report sets out a response to the request for supplementary information by the Department of Public Expenditure and Reform pursuant to Section 7(B) sub-section 4 of the 2019 European Union (Environmental Impact Assessment) (Arterial Drainage) Regulations.

1.1. Summary of the River Deel (Crossmolina) Flood Relief Scheme

The River Deel and Crossmolina Town have a long history of flooding. The four most recent flood events in 1989, 2006, and 2015 (twice) resulted in flooding of three main streets in Crossmolina Town. Approximately 120 properties were inundated by flood water during the most extreme of these floods in December 2015. As such, there is a critical need for measures to be employed to alleviate any future flooding within the town.

The proposed scheme for the River Deel is a diversion channel upstream of the town with a capacity of 110 cumec, which will redirect flood waters away from the town, directly to the flood plains of Lough Conn. The scheme has been designed to cater for the 1% Annual Exceedance Probability (AEP) flood event (also known as the 100 year flood event). The design of the proposed works has considered the future adaptability of the scheme for the potential impacts of future climate change in accordance with Office of Public Works guidance in relation to climate change and also includes an allowance for freeboard. This will safeguard against flooding associated with potential future climate change that could increase the size of the 100 year flood event.

1.2. Structure of this Report

An index of the request for supplementary information issued by the Department of Public Expenditure and Reform on 18th May 2021 is provided in Section 2 of this report. Additional information in response to the general comments in the peer review document is provided in Section 3 of this report.

2. INDEX OF RESPONSES TO REQUEST FOR SUPPLEMENTARY INFORMATION

	DPER Request for Supplementary Information	Response
	Environmental Impact Assessment Report	
1	The structure of the EIA be set out in a table such as the one described (Table 1-1) on p6.	The structure of the EIA is set out in Chapter 1, Table 1A of the EIA Addendum.
2	The methodology used to produce each chapter should be clearly described in the Introduction Chapter.	The general structure and content of the EIA is provided in Chapter 1, Section 1.4. of the EIA and describes the grouped structure employed when completing the impact assessment. The EIA chapters 1, 2 & 3 are concerned with providing an introduction, background and description of the proposed development and do not undertake an impact assessment. The remaining chapters (with the exception of Ch.12, schedule of mitigation and Ch.13 interaction of the foregoing) all undertake an impact assessment and whilst

DPER Request for Supplementary Information		Response
		the subjects considered vary greatly and the format of each may also vary to reflect this, they all follow a similar methodology and include certain necessary elements that are fundamental in providing a robust assessment. The aspects of the methodology that are common to the assessment in all chapters are provided in Chapter 1, Table 1B of the EIA Addendum.
3	Provide a site location map and site layout drawing in Chapter 2.	A site location map and site layout drawing are provided in Chapter 2, Section 2.1 of the EIA Addendum (Figure 2.1 & 2.2).
4	Address the Circular Economy in Chapter 2.	The Circular Economy is addressed in Chapter 2, Section 2.3.1.4 of the EIA Addendum.
5	Address the following in Chapter 3: the extent and location of the bank protection should be detailed.	The extent and location of bank protection is detailed in Chapter 3, Section 3.1.3 of the EIA Addendum, Appendix 3A (Drawing L_01 and S_0) and Appendix 3C (Drawing SP_01).
6	The biodiversity Chapter should address the following: Birds and small mammals Population management Critical resources Resolve the query re sondes in Table 5.15 Remove Greater White-fronted Goose from Table 5.9.	All the issues raised have been addressed and the Sections EIA amended accordingly via updates to Tables 5.1 & 5.9 and Sections 5.4.3.2, 5.4.3.3 and 5.5.8. which are shown in the EIA addendum. In addition, a statement of authority is also provided in the addendum, along with a summary table of all impacts. Additional detail is provided in Section 3.5 below
7	Confirm the figure of 166,400 cubic metres of soil material to be excavated as part of the proposed works.	The figure of 166,400 cubic metres is confirmed in Chapter 6, Section 6.4.7 of the EIA and EIA Addendum.
8	Assess the impact of dust from the excavated material in Chapter 8.	The impact of dust from excavated material is assessed in Chapter 8, Sections 8.4.2, 8.4.5, 8.4.6 and 8.4.7 of the EIA Addendum. The Dust Impact Assessment for the Scheme is provided in Appendix 8A of the EIA Addendum.
9	Review the Traffic Impact Assessment in view of the response to clarification on soil quantity.	A revised traffic impact assessment is provided in Chapter 11, Sections 11.2.2, 11.2.3 and 11.2.4.2 of the EIA Addendum. Additional information is provided in Section 3.11 of this report.
10	Provide more detail on the proposed waste management to include details of proposed facilities.	Additional detail on waste management and proposed facilities is provided in Chapter 11, Sections 11.4.2 and 11.4.3 of the EIA Addendum. Further information is provided in Section 3.11 of this report.
11	A Chapter on Risk should be included.	A Chapter on Major Accidents and Natural Disasters is provided in Chapter 14 of the EIA Addendum.
	Natura Impact Statement	

DPER Request for Supplementary Information		Response
1	State why any European site outside the 15km zone was ruled out. (Section 1.1).	This rationale is provided in Section 3 of the Amended AA Screening Document and Section 1.2 of the NIS. Further information is provided in Section 4.1 of this report.
2	Full details should be provided on the measures to be employed to protect the bank during works.	Clarification as to the location and nature of the bank protection works is provided in Sections 2.2.3, 2.3.2, 2.3.3 and 4.1.1.2 of the NIS as provided in the NIS Addendum Document. Further information is provided in section 4.2 of this document
3	Provide a rationale as to why a 20% or greater difference between upstream and downstream turbidity will sound an alarm and not a lower figure as recommended.	Clarification as to the sonde alarm trigger limits is provided in Sections 2.3.2, 2.3.3 and 4.1.1.2 of the NIS as provided in the NIS Addendum Document. Further information is provided in section 4.3 of this document
4	Amend the conclusion to ensure that it complies with the requirements as set out in case law.	The concluding statement has been amended to ensure compliance with the relevant caselaw and is provided in Section 7 of the Amended NIS. This is shown in Section 4 of the NIS Addendum. Further information is provided in Section 4.4 below
5	Ensure that mitigation measures inform the Construction Environmental Method Statement, not the reverse.	Sections 2.3.1 and 4.2.2.2 of the NIS have been updated to address the comments made in the peer review document. Further information is provided in Section 4.4 below

3. ADDITIONAL INFORMATION EIAR

3.1. Introduction Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of the chapter be provided within each Chapter. It is noted that Chapter 1 of the EIAR provides these details in Table 1.2 but for convenience, the details of the contributor to this chapter is provided in the EIAR Addendum.

EIAR Structure Table

The peer review document recommends:

In general, as per the EPA Guidelines we would recommend the use of a Table to set out clearly how the EIAR will be structured.

In response to this recommendation, Table 1.1 sets out the structure of the EIAR and is an addendum to Section 1.4 of the EIAR as provided in the EIAR Addendum Document.

Methodology Employed to Produce each EIAR Chapter.

The peer review document notes that the description of the methodology used to produce the EIAR is not entirely clear and would benefit by being set out in a Table. However, it is compliant with the Regulations and Guidelines. In the interest of clarity, they recommend the use of a table.

The general structure and content of the EIA is provided in Section 1.4. of the EIA and describes the grouped structure employed when completing the impact assessment. The EIA chapters 1, 2 & 3 are concerned with providing an introduction, background and description of the proposed development and do not undertake an impact assessment. The remaining chapters (with the exception of Ch.1.2, Schedule of Mitigation and Ch.1.3 Interaction of the Foregoing) all undertake an impact assessment and whilst the subjects considered vary greatly and the format of each may also vary to reflect this, they all follow a similar methodology and include certain necessary elements that are fundamental in providing a robust assessment.

The aspects of the methodology that are common to the assessment in all chapters are provided in Table 1.2 in the EIA Addendum.

3.2. Background Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of the chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributor to this chapter is provided in the EIA Addendum.

Site Location and Layout Mapping

The Peer review document recommends that Section 2.1 of the EIA would benefit from a drawing of the site location and a further drawing of the site layout. These maps are provided in the EIA addendum. Figure 2.1 shows the site location and Figure 3.1 is provided in Chapter 3 of the EIA but is presented in the EIA Addendum for clarity for the reader.

Circular Economy

The peer review document recommends that Chapter 2 should consider the circular economy, given the considerable quantities of soil and stone being generated by the proposed development. The addendum provides text to be included in Section 2.3 of the EIA – Strategic Planning & Development Context.

3.3. Description of the Proposed Development

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of each chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributors have also been included in Chapter 3 of the EIA Addendum.

Extent of Bank Protection

The peer review document recommends that the extent and location of the bank protection should be detailed. In response, additional text has been added to Chapter 3, Section 3.1.3 of the EIA Addendum and Appendix 3D has been provided.

Cumulation with Other Projects

The peer review document notes that it would be preferable to have a table summarising the cumulation with other proposed projects. In response, Table 3.1 has been added to Section 3.7 of the EIA Addendum and further details are also provided in Chapter 2, Section 2.8 of the EIA.

Updates to OCEMP

The OCEMP, which was provided as Appendix 3C to the EIA has been updated to reflect changes to the turbidity levels within the river that trigger alarms in the sondes that will be in place upstream and downstream of the works area. Sections 2.4.4 and 2.4.5 of the OCEMP have been updated along with Table 6.1.

3.4. Population and Human Health Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of the chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributor to this chapter is provided in the EIA Addendum.

Summary of Impacts Table

The peer review document recommends that all of the potential impacts, including their likelihood and potential impact be summarised in a table at the conclusion of the Chapter, which would also include mitigation measures and residual impacts.

Table 4.1. is provided in the EIA Addendum and summarises the impact assessment conclusions associated with construction phase of the proposed development relating to the Population & Human Health Chapter of the EIA. Table 4.2 provides a similar table that relates to the operational phase.

3.5. Biodiversity Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of the chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributor to this chapter is provided in the EIA Addendum.

Personnel responsible for the surveys

The peer review document notes that there is no indication of which person undertook, which survey. In response to this, Table 5.1 from the EIA has been updated to include details of the personnel who were responsible for the completion of the surveys and is provided in the EIA Addendum.

Impacts on Small Mammals, Reptiles & Amphibians

The peer review document notes that the EIA does not adequately address the potential impacts on smaller mammals such as hedgehog, frog or newt.

In response, it is confirmed that all such species were considered during the desk and field surveys undertaken. The multi-disciplinary walkover surveys were specifically designed to detect the presence or likely presence of any protected faunal species. Sections 5.4.3.2, 5.4.3.3 and Table 5.12 have been updated in the EIA Addendum to clarify the assessment of the species and taxa noted.

Consideration of Population Management and Critical Resources

An additional section (5.5.8) has been included within the EIA Addendum to demonstrate that population management and critical resources have been considered in the EIA.

Sonde Trigger Limits

Following the request for supplementary information, it has been agreed among the project team that alarms will trigger when there is a 5% difference between the NTU value recorded in the upstream and downstream Sondes where NTU is above the baseline conditions (likely 10 NTU based on recorded data).

The mitigation proposed in the EIA prescribes the use of sondes located both upstream and downstream of the works and comparing the difference between the two. The cited literature, 'The Freshwater Pearl Mussel – How to protect an Invasive Species' (Moorkens, 2015) does not refer to the use of two sondes but rather to a single sonde placed in the water and a change to accepted baseline conditions that are determined through pre-commencement monitoring of the watercourse over a long period of time. Baseline conditions are therefore assigned as an NTU value above which turbidity is considered to be outside the natural baseline condition for the river. This could be caused by any number of factors that may or may not be caused by the construction activity being undertaken, but nonetheless would require investigation.

The rationale for the use of the trigger limit of 20% difference between upstream and downstream Sondes that was originally proposed in the EIA is provided below.

The 20% trigger limit set out in the EIA refers to a direct comparison between sondes located both upstream and downstream of any works. This provides a more accurate estimation of where the source of turbidity may be originating. e.g. in times of high flow, turbidity may naturally increase – but would do so at both the upstream and downstream sondes and thus the alarm would not be triggered.

The reason that the trigger limit is set at 20% difference is because the River Deel often runs very clear with NTU values of <10 and therefore very slight variances between upstream and downstream Sondes that would be commensurate with the natural flow of a clean river and the variations in recording, would trigger an alarm.

For example, an alarm would sound if the upstream Sonde recorded a value of 2NTU and the downstream Sonde recorded a value of 2.1NTU if applying a 5% margin. This would likely not be reflective of actual impacts on the river and more so on the natural variation within the river. It would not reflect a 5% increase on the accepted baseline.

In the same scenario, applying a 20% margin, an alarm would trigger if the downstream Sonde recorded a value of 2.4NTU – this is still very sensitive but is more reflective of an actual impact on the river between the two Sondes.

Following receipt of the peer review and request for supplementary information, the trigger limits were discussed between the project team and it was agreed that a figure could be determined for the baseline conditions in the river based on existing data, from a Sonde that was placed in the River for a period of approximately three months during 2015. Upon analysis of that data, it was found that, although the river had generally very low turbidity, there were spikes during normal, baseline conditions. Although imperfect, the average was taken of all the readings and a single NTU representing the baseline turbidity within the river was assigned. When averaged, the baseline NTU was found to be approximately 12 NTU. Allowing for outliers in the dataset (high values caused by malfunction or blockages etc.), this figure was reduced to 10 NTU as an assigned baseline turbidity. Upon confirmation of the scheme, Sondes will be placed in the river, upstream and downstream of the proposed works and deployed on a permanent basis until the works are complete. The baseline will be recalculated with the data recorded between confirmation and commencement of works.

The EIAR has been revised to reflect the change to the alarmed sonde trigger limits. Sections 5.5.2.1 and 5.5.6.1 have been updated and are shown in the EIAR Addendum.

Greenland White Fronted Goose

The peer review document noted the inclusion of Greenland White Fronted Goose in Table 5.9 of the EIAR.

This species was included in this table in error but was surveyed and assessed in line with its true status as a wintering species elsewhere in the EIAR. The typographical error of referring to the species as the Greater White Fronted Goose is also acknowledged in the addendum. Table 5.9 has been updated accordingly in the EIAR Addendum.

3.6. Land Use, Soil and Geology Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of each chapter be provided within each Chapter. It is noted that Chapter 1 of the EIAR provides these details in Table 1.2 but for convenience, the details of the contributors have also been included in Chapter 6 of the EIAR Addendum.

Map of Proposed Landtake

The peer review document suggested the inclusion a map showing the proposed land take associated with the Scheme. This has been provided in Appendix 6E of the EIAR Addendum. In addition, Section 6.3.1.1 of the EIAR Addendum has been amended to reflect the inclusion of the map.

Disposal/Recovery Sites for Excavated Material

The peer review document notes that the EIAR does not confirm that Coolturk Quarry is authorised to accept excavated material from the proposed channel. In response, Section 6.4.4 of the EIAR Addendum has been updated to provide confirmation with regard to the suitability of Coolturk Quarry in terms of the acceptance of the types of materials to be disposed of at the facility in accordance with the Waste Facility Permit. Coolturk Quarries has been identified as one potential disposal/recovery site for excavated material from the Scheme. Other potential outlets for the material include Mullafarry Quarry (COR-MO-15-0039-01) and Lennon Quarries (WFP-

MO-14-0034-02) among numerous other licensed facilities. In addition to existing licensed facilities, other facilities may become available during the lifetime of the project. For a Scheme of this nature, it is not expected, prior to Confirmation being granted, (and therefore in the absence of any commercial arrangement), for facilities to apply for a new permit, however it will be possible to apply for a new permit once the Scheme has been confirmed.

Impacts Associated with Handling of Excavated Materials

The peer review document notes that in Section 6.4.7 of the EIA, the impacts associated with the handling of excavated materials are not stated in the EIA. In response, additional text has been provided in Section 6.4.7 of the EIA Addendum.

Impacts Associated with Fuels, Lubricants, Non-Hazardous and Hazardous Wastes

The peer review document notes that Section 6.4.3.2 of the EIA states that the potential impacts that may result from the improper management, storage and handling of fuels and lubricants for plant and machinery and of non-hazardous or hazardous liquid and solid wastes during the construction phase of the proposed scheme have not been quantified or assessed. In response, Section 6.5.3.2 of the EIA Addendum has been updated.

Quality, Significance and Duration Tables

The peer review documents notes that for ease of reference, it is recommended that the quality, significance and duration tables are repeated in each Chapter. The quality, significance and duration tables have been provided in Chapter 1, Table 1.1 of the EIA and it is stated that the consistent application of this terminology is used throughout the EIA.

Summary of Impacts Table

The peer review document recommends that all of the potential impacts, including their likelihood and potential impact be summarised in a table at the conclusion of the Chapter, which would also include mitigation measures and residual impacts. In response, Chapter 6, Section 6.7 of the EIA Addendum summarises the potential impacts, their likelihood, proposed mitigation and residual impacts relating to Land Use, Soils and Geology.

3.7. Water Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of each chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributors have also been included in Chapter 7 of the EIA Addendum.

Summary of Impacts Table

The peer review document recommends that all of the potential impacts, including their likelihood and potential impact be summarised in a table at the conclusion of the Chapter, which would also include mitigation measures and residual impacts. In response, Chapter 7, Section 7.6 of the EIA Addendum summarises the potential impacts, their likelihood, proposed mitigation and residual impacts relating to water.

3.8. Air Quality & Climate/ Noise & Vibration Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of each chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributors have also been included in Chapter 8 of the EIA Addendum.

Dust Impact Assessment

The peer review document states that Chapter 8 of the EIA does not adequately assess the impact of dust from the proposed development on the environment. In response, a dust impact assessment is provided in Appendix 8A of the EIA Addendum and the text in Sections 8.4.2 and 8.4.5 have been updated to take account of the findings of the dust impact assessment.

Monitoring Measures

The peer review document states that monitoring is only dealt with in a perfunctory manner with no details provided. Section 8.4.6 specifies monitoring measures to be implemented during the construction phase of the Scheme. Additional details are also provided in Appendix 8A and the OCEMP (Appendix 3B).

Summary of Impacts Table

The peer review document recommends that all of the potential impacts, including their likelihood and potential impact be summarised in a table at the conclusion of each Chapter, which would also include mitigation measures and residual impacts. In response, Chapter 8, Section 8.9 of the EIA Addendum summarises the potential impacts, their likelihood, proposed mitigation and residual impacts relating to Air Quality and Climate/ Noise and Vibration.

3.9. Landscape Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of each chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributors have also been included in Chapter 9 of the EIA Addendum.

Summary of Impacts Table

The peer review document recommends that all of the potential impacts, including their likelihood and potential impact be summarised in a table at the conclusion of each Chapter, which would also include mitigation measures and residual impacts. In response, Chapter 9 of the EIA Addendum summarises the potential impacts, their likelihood, proposed mitigation and residual impacts relating to Landscape.

3.10. Cultural Heritage Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of each chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributors have also been included in Chapter 10 of the EIA Addendum.

Summary of Impacts Table

The peer review document recommends that all of the potential impacts, including their likelihood and potential impact be summarised in a table at the conclusion of each Chapter, which would also include mitigation measures and residual impacts. In response, Chapter 10, Section 10.8 of the EIA Addendum summarises the potential impacts, their likelihood, proposed mitigation and residual impacts relating to Cultural Heritage.

3.11. Material Assets Chapter

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of each chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributors have also been included in Chapter 11 of the EIA Addendum.

Traffic Survey Update

The peer review document notes that the traffic assessment was based on data from 2007 and recommends that more up to date information should be sought. In response, additional traffic surveys were undertaken by Mayo County Council in June 2021 and Section 11.2.2 of the EIA Addendum has been updated accordingly.

Traffic Impact Assessment

The peer review document questions the accuracy of the modelled traffic impact assessment. In response, updates to the traffic impact assessment are provided in Chapter 11, Sections 11.2.2, 11.2.3 and 11.2.4.2 of the EIA Addendum. The estimated number of round trips from site for removal of surplus material is 10,400 – 17,000 over the anticipated construction programme. This figure is based on the estimated maximum volume of surplus excavated material that will be removed from the site, a soil density of 1.6 T/m³ and the volume of material that can be transported per vehicle, assuming the use vehicles ranging from 16T to 30T capacity. The number of vehicle movements will be dependent on the contractual arrangements OPW enter into for transport and disposal/reuse of excavated material. A conservative maximum figure of 67 round trips per day for removal of excavated material has been assumed in the traffic impact assessment to take account of a worst-case scenario. A soil density of 1.6 T/m³ has been assumed in this assessment, following a review of the site investigation data, groundwater levels and material types encountered as part of the site investigation.

Table 11.11 Units

The peer review document notes that Table 11.11 does not have any units. In response, Table 11.11 has been updated in the EIA Addendum to clarify the units.

Waste Management Legislation

The peer review document notes that there is no information provided to demonstrate that waste will be disposed of/recovered in accordance with Waste Management Legislation. In response to this comment, it is noted that the mitigation measures in Section 11.4.3 of the EIAR specifies that “All current and applicable waste management legislation will be applied and adhered to” and sets out the requirements in relation to haulage of material in compliance with the provisions of the Waste Management Act (1996) (as amended), associated Regulations and the Waste Management Plan prepared in accordance with ‘Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects (2006)’. In addition, the requirement for waste facilities to be appropriately licensed is specified. Receiving facilities must be in possession of a waste permit granted by the Local Authority under the ‘Waste Management (Facility Permit & Registration) Regulations 2007’ (as amended) or a waste license granted by the EPA.

Disposal/Recovery Site for Excavated Material

The peer review documents requests that information be provided in relation to the consent Coolturk Quarries is operating under, the capacity and annual tonnage it can accept and confirmation that it can accept the type of material identified in the EIAR. In addition, details of the permit/licence and a waste acceptance letter for Coolturk Quarries are required. In response, Section 11.4.3 of the EIAR Addendum has been updated to provide confirmation with regard to the waste facility permit (WFP) and the suitability of Coolturk Quarries in terms of the acceptance of the types of materials identified in the EIAR in accordance with the Waste Facility Permit (WFP). Coolturk Quarries has been identified as one potential disposal/recovery site for excavated material from the Scheme. In accordance with the current WFP (WFP-MO-15-0035-02), the facility is authorised to accept 100,000 tonnes of material. Other potential outlets for the material include Mullafarry Quarry (COR-MO-15-0039-01) and Lennon Quarries (WFP-MO-14-0034-02) among numerous other licensed facilities. In addition to existing licensed facilities, other facilities may become available during the lifetime of the project. OPW will enter into commercial arrangements with the facility operator/(s). While preliminary discussions have taken place between OPW and the operators of various licensed facilities, negotiations regarding commercial arrangements have not advanced further pending Scheme Confirmation. For a Scheme of this nature, it is not expected, prior to Confirmation being granted, (and therefore in the absence of any commercial arrangement), for facilities to apply for a new permit, however it will be possible to apply for a new permit once the Scheme has been confirmed. The assessment in the EIAR ensures consideration of worst-case scenario.

Circular Economy

Section 11.4.3 of the EIAR addresses the circular economy.

Interactions

The peer review document notes that the Chapter does not address interactions. In response, interactions have been addressed in Section 11.8 of the EIAR as well as Chapter 13 Interaction of the Foregoing.

Summary of Impacts Table

The peer review document recommends that all of the potential impacts, including their likelihood and potential impact be summarised in a table at the conclusion of each Chapter, which would

also include mitigation measures and residual impacts. In response, Chapter 11, Section 11.9 of the EIA Addendum summarises the potential impacts, their likelihood, proposed mitigation and residual impacts relating to Material Assets.

3.12. Schedule of Mitigation

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of the chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributor to this chapter is provided in the EIA Addendum.

In addition, Table 12.1 has been revised to reflect the change to the alarmed sonde trigger limits from 20% to 5% above the baseline level and to reflect other changes to the mitigation prescribed in Chapters 8 and 14 of the EIA.

3.13. Interaction of the Foregoing

Statement of Authority

The Peer review document recommends that the names and qualifications of those who were involved in the preparation of the chapter be provided within each Chapter. It is noted that Chapter 1 of the EIA provides these details in Table 1.2 but for convenience, the details of the contributor to this chapter is provided in the EIA Addendum.

3.14. Major Accidents & Natural Disasters Chapter

This chapter has been added to the EIA following the recommendation of the Peer Review. It forms Chapter 14 of the EIA Addendum.

4. ADDITIONAL INFORMATION NIS

4.1 Rationale for Screening out sites that are further than 15km from the proposed development

In response to this, a rationale for the exclusion of all European Sites that are located over 15km from the proposed development is provided below:

All European Sites within a distance of 15km surrounding the development site were identified. In addition, the potential for the proposed development to result in significant effects on European Sites at distances of greater than 15km from the proposed development was also considered in this initial assessment. In this case, no potential habitat connection that could provide a pathway for effect was identified in relation to any terrestrially based European Site that was located more than 15km from the proposed development. With respect to European Sites that are downstream in the Moy catchment and located over 15km away, The Killala Bay and Moy Estuary SAC and the Killala Bay/Moy Estuary SPA are located over 50km (hydrological distance) downstream and further separated from the proposed development by Lough Conn and Lough Cullin. No pathway for significant effect on these European Sites was identified given the location and scale of the proposed works, the large natural attenuation capacity of the intervening watercourses and lakes and the distance between proposed development and the SAC and SPA.

This information has been amended in the NIS and AA Screening. Section one of the NIS addendum document provides the relevant amended sections of the NIS and AA Screening Document.

Excerpts from Section 3 of the revised AA Screening Document and Section 1.2 of the revised NIS are provided in Section One of the NIS Addendum.

4.2 Details of Bank Protection Works

The extent of the rock armour associated with the intake structure is shown on the scheme drawings and it is confirmed that the bank protection extends 90m upstream and 80m downstream from the intake structure.

To provide additional clarity on this issue, Sections 2.2.3 and 2.3.2, which refer to the intake structure and associated bank protection works, have been amended in the NIS. In addition, a drawing of the proposed works, with the SAC boundary overlain is also provided as a new Figure 2.3.

Excerpts from Section 2.2.3, Section 2.3.2 and Section 2.3.3 of the revised NIS are provided in Section 2 of the NIS Addendum Document along with Figure 2.3.

4.3 Rationale for Sonde Trigger Limit

Following the request for supplementary information, it has been agreed among the project team that alarms will trigger when there is a 5% difference between the NTU value recorded in the upstream and downstream Sondes where NTU is above the baseline conditions (likely 10 NTU based on recorded data).

The mitigation proposed in the NIS prescribes the use of sondes located both upstream and downstream of the works and comparing the difference between the two. The cited literature '*The Freshwater Pearl Mussel – How to protect an Invasive Species*' (Moorkens, 2015) does not refer to the use of two sondes but rather to a single sonde placed in the water and a change to accepted baseline conditions that are determined through pre-commencement monitoring of the watercourse over a long period of time. Baseline conditions are therefore assigned as an NTU value above which turbidity is considered to be outside the natural baseline condition for the river. This could be caused by any number of factors that may or may not be caused by the construction activity being undertaken, but nonetheless would require investigation.

The rationale for the use of the trigger limit of 20% difference between upstream and downstream Sondes that was originally proposed in the NIS is provided below.

The 20% trigger limit set out in the NIS refers to a direct comparison between sondes located both upstream and downstream of any works. This provides a more accurate estimation of where the source of turbidity may be originating. e.g. in times of high flow, turbidity may naturally increase – but would do so at both the upstream and downstream sondes and thus the alarm would not be triggered.

The reason that the trigger limit is set at 20% difference is because the River Deel often runs very clear with NTU values of <10 and therefore very slight variances between upstream and downstream Sondes that would be commensurate with the natural flow of a clean river and the variations in recording, would trigger an alarm.

For example, an alarm would sound if the upstream Sonde recorded a value of 2NTU and the downstream Sonde recorded a value of 2.1NTU if applying a 5% margin. This would likely not be reflective of actual impacts on the river and more so on the natural variation within the river. It would not reflect a 5% increase on the accepted baseline.

In the same scenario, applying a 20% margin, an alarm would trigger if the downstream Sonde recorded a value of 2.4NTU – this is still very sensitive but is more reflective of an actual impact on the river between the two Sondes.

Following receipt of the peer review and request for supplementary information, the trigger limits were discussed between the project team and it was agreed that a figure could be determined for the baseline conditions in the river based on existing data, from a Sonde that was placed in the River for a period of approximately three months during 2015. Upon analysis of that data, it was found that, although the river had generally very low turbidity, there were spikes during normal, baseline conditions. Although imperfect, the average was taken of all the readings and a single NTU representing the baseline turbidity within the river was assigned. When averaged, the baseline NTU was found to be approximately 12 NTU. Allowing for outliers in the dataset (high values caused by malfunction or blockages etc.), this figure was reduced to 10 NTU as an assigned baseline turbidity. Upon confirmation of the scheme, Sondes will be placed in the river, upstream and downstream of the proposed works and deployed on a permanent basis until the works are complete. The baseline will be recalculated with the data recorded between confirmation and commencement of works.

The NIS has been revised to reflect the change to the alarmed sonde trigger limits.

Excerpts from Section 2.3.2, Section 2.3.3 and Section 4.1.1.2 of the revised NIS are provided in Section 2 of the NIS Addendum Document.

4.4 NIS Conclusion

The advice included in the peer review document has been followed and the NIS conclusion amended accordingly. The revised NIS conclusion reads as follows:

This Natura Impact Statement details the findings of the Stage 2 Habitats Directive Assessment conducted to further examine the potential direct and indirect impacts of the Proposed River Deel (Crossmolina) Drainage Scheme on the following European Sites:

- River Moy SAC (2298)
- Lough Conn & Lough Cullin SPA (004228)

The above sites were identified by a screening exercise that assessed likely significant effects of a range of effects that may arise from the Proposed Development. The assessment investigated the potential direct and indirect impacts of the Proposed Works, both during Construction and Operation on the integrity and qualifying interests of the above European Sites alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives. Where potentially significant impacts were identified, a range of mitigation and avoidance measures have been suggested to help offset them. As a result of this assessment, it has been concluded that, ensuring the avoidance and mitigation measures are implemented as proposed, the Proposed Development will not have an adverse impact on the above European Sites. As a result of the complete, precise and definitive findings in of this NIS, it has been concluded, beyond reasonable scientific doubt, that the Proposed Development will have no adverse effects on

the qualifying interests, special conservation interests and on the integrity and extent of River Moy SAC (2298), and Lough Conn and Lough Cullin SPA (004228)

Accordingly, the Proposed Development will not adversely affect the integrity of any relevant European site.

The NIS has been revised to include the new concluding statement.

Section 7 of the revised NIS is provided in Section 3 of the NIS Addendum Document.

4.5 Mitigation Measures and OCEMP

The impact assessments that were carried out to inform both the EIAR and NIS, prescribed the mitigation necessary to ensure that the proposed development could proceed without adverse effects on the SAC. This informed the design of the scheme and the methods by which it will be constructed and operated. The OCEMP took all the prescribed measures from both the EIAR and the NIS and compiled them in one location that is easily accessible and provides a framework for their full implementation. It does not include measures that are not otherwise contained in the EIAR or NIS and does not inform the assessment within the NIS.

The NIS has been revised to provide clarity on this issue.

Excerpts from Section 2.3.1 and Section 4.2.2.2 of the revised NIS are provided in Section 4 of the NIS Addendum Document. As the OCEMP has been updated, the relevant sections are provided in an Addendum to Appendix IV of the NIS.