

REACTIVE MAINTENANCE AT BALLYCOMEY CULVERT

Response to Request for Further Information

July 2021



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Appendix A - Visqueen plastic sheeting product data sheet

1. INTRODUCTION

1.1 Terms of Reference

Roughan & O'Donovan Consulting Engineers ('ROD') have been engaged by Transport Infrastructure Ireland ('TII') to provide ecological consultancy services for the reactive maintenance at Ballycomey Culvert ('the proposed works').

1.2 Statement of Purpose

In April 2021, TII submitted a Natura Impact Statement (NIS) for the proposed reactive maintenance works at Ballycomey Culvert to the Minister for Tourism, Culture, Arts, Gaeltacht, Sport and Media ('The Department') pursuant to the requirements of Regulation 42(9)(c) of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended).

On the 24th May 2021, comments were received in relation to the NIS for the proposed works. The purpose of this document is to present the applicant's (TII) responses to these comments. This document has been prepared by ROD on behalf of TII.

It is the view of the authors that the responses and clarifications presented in this document demonstrate beyond all reasonable scientific doubt that the proposed works, either individually or in combination with other plans or projects, in view of best scientific knowledge, will not adversely affect the integrity of the River Barrow and River Nore SAC or any other European site, in view of the sites Conservation Objectives.

1.3 Document Layout

Italicised text in boxes below is reproduced verbatim from the response received from the NPWS containing requests for additional information to be contained in the NIS. The text which follows each query constitutes the author's response to the query in question. The layout and order of this document follows that of the letter received.

2. BALLYCOMEY CULVERT

2.1 Proposed Works

“It is not stated whether any remediation works such as those proposed by IFI will take place and this should be clarified and included in the NIS assessment if necessary.”

As recommended by Inland Fisheries Ireland (IFI), the works include the installation of a sloped apron slab from the bed of the masonry arch section (at the outlet) to meet the incoming piped section. Additionally, the stones found in the culvert bed are to be set into the apron slab to mimic the condition of the existing bed. These recommendations have been taken into consideration and incorporated into the proposed remediation works.

2.2 European Sites

2.2.1 Baseline Data

“Given that the main adverse effects from the proposed project are related to water quality, the Department considers that baseline water quality data should be presented and reference should be made to water quality requirements of Qualifying Interest species and habitats within the projects zone of influence.”

Water Quality

The Water Framework Directive (WFD) ecological status of the river at the location of the structure is rated as ‘Moderate’ (EPA, 2021). This is based on the abundance of aquatic plant and animal species, the availability of nutrients, and aspects such as temperature and pollution. Morphological features, such as quantity, water flow, water depths and structures of the riverbed are also considered. ‘Moderate’ status means that there is a moderate deviation from the natural condition that this river should be in in the absence of human pressure at the time at which this status was awarded between 2013 and 2018, which was the most recent update. (EPA, 2021). The natural morphology and flow of the river has been heavily altered at this location due to the existing culvert and masonry-arch bridge. Additionally, the water may have received some pollution in the form of run-off from the surrounding agricultural lands. However, there is no evidence of the effects of extensive pollution at the location of the structure.

The EPA also use the Q-value system for evaluating river quality by using biotic indices that reflects average water quality at any location. This is typically carried out by kick sampling the riverbed at a sample station for aquatic invertebrates. The invertebrates are then identified, and each species contributes a score based on their sensitivity to or tolerance of pollution which is used to estimate the water quality of the river. There is a sample station location 900m downstream of the structure along the River Nore. This station was last sampled in 2019 with a Q-value of 3-4. These values mean that the river at the location of the sample station is ‘slightly polluted’ and in ‘unsatisfactory condition’. These values also correlate with the WFD status of ‘moderate’. (EPA, 2021). The following mitigation measures have been proposed and were contained in the NIS which was submitted to the Department, to avoid water quality impacts arising from the proposed works:

- The Contractor will be required to appoint an **Ecological Clerk of Works (ECoW)**; the following outline scope of works will allow the Contractor to provide a scope of works to TII for these professional services. Furthermore, ROD will provide an appropriately qualified ecologist (“**the Employers**”

Ecologist") in order to provide oversight of the works and the ECoW role to TII. However, it should be noted that responsibility for delivery of environmental measures ultimately lies with the appointed Contractor. The ECoW will be required to fulfil the following tasks:

- Review of engineering & ecological documentation / ongoing liaison with Contractor / ROD / TII.
- Preconstruction ecology visit.
- The scope of the visit will be informed by the characteristics of the site (as set out in the NIS and subsequent correspondence) and will at a minimum include a check for Otter, nesting birds and invasive plant species.
- The preconstruction survey must occur prior to the Contractor mobilising on site, but also as close to the mobilisation date as is practical. The ECoW will prepare a technical memo on the findings which will be provided to the Contractor; it will also be provided to the Employer's Ecologist and TII.
- Presentation of Toolbox Talk to site staff prior to commencement of works on site.
- The ECoW will be required to attend site during mobilisation, notably during the establishment of surface water control measures in order to ensure they are working effectively and to communicate its status to Employer's Ecologist and TII.
- The ECoW will also be required to attend site during de-mobilisation, removal of surface water control measures and reinstatement of natural flow patterns.
- Once available the Contractor will provide an outline programme of works to the ECoW. This will allow the ECoW to determine, when, if any, additional site visits may be needed.
- In addition to preparing a scope of works for predictable tasks, the ECoW will be required to be available for any on-site emergencies. This will be used to cover situations such as:
 - i) If the programme of works is significantly altered by delays or adverse weather conditions; or
 - ii) If the site needs to be demolished due to a predicted bad weather event.
- The Employer's Ecologist will provide oversight to the above on behalf of TII. This will also include for site visits to ensure all proposed mitigation measures are in fact operating effectively.
- In-stream works will comply with IFI (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.
- Masonry and concrete construction and repairs will be undertaken from the bridge deck, or on foot or from scaffolding which will be erected on the riverbed.
- Only one bucket of wet mortar will be brought to the work site at any time by each person carrying out the repointing.
- Scaffolding deck should completely capture all falling debris which will be removed and disposed of safely.
- A mobile catch-net or plastic sheeting will be fitted under any areas where construction or repair work will be carried out on the bridge deck, parapets, spandrel walls or wingwalls to prevent any spilled mortar or concrete falling on the ground or entering the watercourse.
- The catch net will be approved by the Employer's representative and the Employer's Ecologist.
- Concrete and mortar will be mixed in a watertight container at least 20 m from the stream.
- The use of wet concrete and wet mortar will not be permitted if rain is forecast. Works may commence when no heavy rain is forecast in the next seven days.

The commencement of the works will be approved by the Employer's Representative. Plastic sheeting will be available to cover any areas of wet concrete or mortar should unexpected rainfall occur.

- Water will be diverted away from the works area using temporary dams above and below the structure. The dams will be constructed using sandbags and plastic sheeting or similar. Rubber 'aqua dams' are also acceptable. The area between the dams will then be dewatered using a pump.
- A flume will be constructed to carry the stream through the culvert while allowing the concrete base to be installed. The flume will have a screen at the inlet to prevent fish and debris from entering it.
- All water being pumped out will pass through a silt trap to prevent silt entering the water downstream. The silt trap will be approved by the Employer's Representative and the Employer's Ecologist.
- The pump used for dewatering will be supervised at all times to ensure it is operating correctly.
- The concrete base will be checked by the Employer's Representative prior to removal of dams to ensure it is dry.
- A method statement will be produced by the Contractor and approved by the Employer's Representative and the Employer's Ecologist. It will also be submitted to IFI for approval. The method statement will contain the following measures to protect water quality:
 - Cementitious material shall not be allowed to enter the watercourse.
 - Plant are not permitted to enter the watercourse
 - Stockpiling of materials and/or storage of fuels shall not be permitted at the site.
 - Refuelling shall not be permitted within 50m of the watercourse.
 - Spill kits shall be available on-site.

Further detail on the Qualifying Interests with attributes relating to water quality provided in table 2.1 below.

Table 2.1 Qualifying Interests with Sensitivities to Water Quality (NPWS, 2011).

Qualifying Interest	Water Quality Attribute Measure	Target	Impacts from Proposed Works	Residual Impacts following Mitigation
[REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]
[1092] White-clawed crayfish (<i>Austropotamobius pallipes</i>)	EPA Q-value	At least Q3-4 at all sites sampled by EPA.	The proposed works will result in impacts that will reduce the Q-value of the river at the location of the structure in the absence of mitigation as toxic chemical inputs will result in the mortality of pollution sensitive species. Therefore, mitigation is required.	The mitigation measures outlined above will significantly reduce the risk of accidental pollution, including input of cementitious materials or hydrocarbons to the river. Any water quality impacts which could arise in the unlikely event of accidental pollution would constitute a temporary slight to imperceptible negative impact if they were to occur at all.
[1103] Twaite shad (<i>Alosa fallax</i>)	Oxygen levels: Milligrams per litre	No lower than 5mg/l.	The proposed works will not result in any measurable changes to the oxygen levels of the water within the river at the location of the structure. Therefore, impacts on this QI through this attribute can be ruled out.	No mitigation required.
[1106] Atlantic salmon (<i>Salmo salar</i>)	EPA Q-value	At least Q4 at all sites sampled by EPA.	The proposed works will result in impacts that will reduce the Q-value of the river at the location of the structure in the absence of mitigation as toxic chemical inputs will result in the mortality of pollution sensitive species. Therefore, mitigation is required.	The mitigation measures outlined above will significantly reduce the risk of accidental pollution, including input of cementitious materials or hydrocarbons to the river. Any water quality impacts which could arise in the unlikely event of accidental

				pollution would constitute a temporary slight to imperceptible negative impact if they were to occur at all.
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[3260] Water course of plain to montane levels with <i>Ranunculioon fluitantis</i> and <i>callitricho-Batrachion</i> vegetation	Suspended solids: Milligrams per litre	The concentration of suspended solids in the water column should be sufficiently low to prevent excessive deposition of fine sediments.	The proposed works will give rise to enough suspended solids to cause excessive deposition of fine sediments in the absence of mitigation. Therefore, mitigation is required.	Provided the mitigation measures outlined above are implemented, the probability of the proposed works giving rise to suspended solids are very low and the significance of such impacts, if they were to occur, would be slight to imperceptible.
	Nutrients: Milligrams per litre	The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition.	The proposed works will not give rise to any additional input of nutrients to the river in the absence of mitigation. Therefore, impacts on this QI through this attribute can be ruled out.	No mitigation required.
[7720] * Petrifying springs with tufa formation (<i>Cratoneurion</i>)	Water chemistry measures	Maintain oligotrophic and calcareous conditions.	The proposed works will not alter the oligotrophic or calcareous conditions of the river in the absence of mitigation as potential pollutants are alkaline and no additional nutrients will be input. Therefore, impacts on this QI through this attribute can be ruled out.	No mitigation required.

"It is unclear whether the culvert structure is currently creating a barrier to Qualifying Interest aquatic species such as Atlantic salmon, lamprey species and white-clawed crayfish. This should be specified."

Considering the increased rate of flow and the smooth texture (lack of grip) within the pipe culvert, as well as the fact that the pipe culvert outlet is perched above the masonry arch section, it is considered that the existing structure is creating an effective barrier against migrating fish species and the movement of white-clawed crayfish. The proposed works will reduce the barrier effects caused by the perched culvert.

"It is unclear whether the current structure is providing a barrier to otter movement, particularly in times of high flow. [...]. It is not stated whether any provision for otter has been made in the existing culvert structure."

Otters are disinclined to use water-filled pipe culverts without dry pathways (TII/NRA, 2008). Considering this and the small size of the pipe culvert, it is highly likely that the existing structure is creating an effective barrier against the movement of Otter. There are no provisions for otter within the existing structure. The proposed works will reduce the barrier effects for otter caused by the perched culvert.

"No details of the survey methodology followed are given, for example how far up and down stream of the bridge was surveyed."

A site survey, including surveys for Otter [REDACTED] was carried out on the 8th April 2021 by ROD ecologist Owen O'Keefe MCIEEM and Calvin Townsend-Smyth QualCIEEM. Owen is an ecologist with over 5 years' experience and has a BSc (Hons) in Ecology from University College Cork. Calvin is an ecologist with 2 years' experience and has a BSc (Hons) in Wildlife Biology from the Institute of Technology, Tralee.

The purpose of the Otter survey was to identify signs of Otter at the structure. The Otter survey was based on the "Guidelines for the treatment of Otters prior to the Construction of National Road Schemes" (TII/NRA, 2008) and involved a systematic search of the riverbanks for physical evidence of Otter e.g. spraints, prints, slides, trails, couches and holts. The survey methodology was also cognisant of the recommendations in the "Otter Threat Response Plan 2009-2011" (NPWS, 2009) which recognises the importance of the riparian buffer (10 m on both banks) for Otter. The survey was limited to within a 5m stretch on the downstream side of the structure and there was no access to the upstream side of the structure. This was due to fallen trees and dense vegetation in the channel.

[REDACTED]

"It is noted that the area around the inlet was not accessible. The Department consider the otter and freshwater pearl mussel surveys to be incomplete."

The channel is blocked by fallen trees, vegetation and steep banks and is inaccessible without significant works to remove the trees which would lead to a greater risk of sediment mobilisation and potentially disturbance, than the proposed works themselves. The 150m distance for otter surveys is considered to be for the construction of national road bridges over watercourses. The works in this instance are localised and temporary (2-3 weeks), so it is considered that the 150m disturbance distance is not relevant in this situation. The works are under a national road so there is already significant ambient noise from passing vehicles. The culvert is already a barrier to connectivity for Otter, however mitigation will be provided during the works to ensure otter passage at night is not affected

[REDACTED]

“The NIS states that the Qualifying Interest habitat ‘Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche- Batrachion vegetation [3260]’ is present at the location of the works. The Department considers that further details, such as the specific location of the habitat and its species composition, must be provided.”

Due to the shading created by the structure itself, there was no vegetation growing under the masonry arch barrel. However, downstream of this where light is available, there were some aquatic bryophytes growing on the stones on the riverbed. Species included *Fontinalis antipyretica* and *Scapania undulata*.

2.2.2 Pressures on/Threats to the Site

“The Department considers that all threats and pressures to the River Barrow and River Nore SAC should be listed in the NIS.”

As discussed in the site synopsis for the site, which is referenced in the NIS, land use at the site consists mainly of agricultural activities, mostly intensive and principally grazing and silage production. Slurry is spread over much of the area. Arable crops are also grown. The spreading of slurry and fertiliser poses a threat to water quality and populations of Annex II species within the site. Many of the woodlands along the rivers belong to old estates and support many non-native species. Fishing is a main tourist attraction along stretches of the main rivers and their tributaries and there are a number of angling clubs, some with a number of beats. Both commercial and leisure fishing takes place on the rivers. There is net fishing and a mussel bed in the estuary. Other recreational activities such as boating, golfing and walking, particularly along the Barrow towpath, are also popular. There is a golf course on the banks of the River Nore at Mount Juliet and sports pitches at Inistioge and Thomastown. There are active and disused sand and gravel pits throughout the site. Several industrial developments, which discharge into the river, border the site. New Ross is an important shipping port and shipping to and from Waterford and Belview ports also passes through the estuary.

The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing in the woodland areas, and invasion by non-native species, e.g. Cherry Laurel and Rhododendron. Water quality remains vulnerable. Good quality water is necessary to maintain the populations of Annex II species and is dependent on controlling fertilisation of the grasslands, particularly along the River Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system

pose a threat to migrating fish species such as Lamprey and Shad. Land reclamation also poses a threat to the salt meadows and the protected species therein (NPWS, 2016).

2.2.3 Evaluation Against Conservation Objectives

“The NIS states that ‘regard was had to the Attributes and Targets which define each site-specific Conservation Objective’. However, table 5.2 lists generic conservation objectives and therefore effects were not linked to specific attributes and targets.”

Table 5.2 of the NIS ‘Evaluation of the likely effects of the proposed reactive maintenance works in view of the Conservation Objectives of the River Barrow and River Nore SAC [002162]’, lists the site-specific Conservation Objective for each Qualifying Interest.

There are no “generic” Conservation Objectives for the River Barrow and River Nore SAC. The NPWS correctly quotes the NIS with the text “regard was had to the Attributes and Targets which define each site-specific Conservation Objective”.

2.3 Assessment of Adverse Effects

2.3.1 Otter

“The NIS states that the proposed works will create a temporary barrier for commuting otters during construction phase. The duration of the works should be given so that the severity of the barrier can be determined.”

The duration of the works is 2-3 weeks. The existing structure already creates a barrier for commuting Otters. For the duration of the works, ramps will be fitted which will allow Otter to traverse the temporary dams.

“the Department considers that, in the absence of adequate surveying in this area, disturbance to otter holts cannot be discounted and advises that this should be considered further as the proposed project will take place within the main otter breeding season (May to August). Consideration of disturbance to breeding otter should be considered in the wider area as well as within the project footprint.”

The channel is blocked by fallen trees, vegetation and steep banks and is inaccessible without significant works to remove the trees which would lead to a greater risk of sediment mobilisation and potentially disturbance than the proposed works themselves. The 150m distance for otter surveys is considered to be for the construction of national road bridges over watercourses. The works in this instance are localised and temporary (2-3 weeks), so it is considered that the 150m disturbance distance is not relevant in this situation. The works are under a national road, so there is already significant ambient noise from passing vehicles. The culvert is already a barrier to connectivity for Otter, however mitigation will be provided during the works to ensure otter passage at night is not affected.

“It is unclear whether the proposed works will increase or decrease any barrier effect of the existing culvert. The gradient of the concrete ramp should be provided as well as evidence that it will not impede fish and crayfish passage.”

The rock ramp with embedded rock will reduce the barrier effects caused by the existing structure. The change in gradient of the ramp will be approximately 250mm over 8m (i.e. between 3% and 4%).

2.4 Mitigation

2.4.1 Water Quality

“The Department considers that physiochemical trigger values for cessation of operations must be included. These should be based on the requirements of water dependent Qualifying Interests as outlined in conservation objective attributes and targets and should consider baseline water quality within the project’s zone of influence. It should be explicitly stated that no herbicide will be used on this project, including to treat tree stumps.”

The river downstream of the proposed works will be monitored for any physiochemical changes that occur during construction works. Operations will cease if the physiochemical parameters pass limits identified in table 2.2 below:

Table 2.2 Parameter Limits for Water Monitoring

Parameter	Limit
Suspended Solids	<25mg/l
pH	>7
Dissolved Oxygen	>5mg/l

These figures are based on the requirements for the relevant Qualifying Interests where available and following national standards which are based on the freshwater (salmonid) quality regulations within the EU Directive 2006/44/EEC where specifications are not provided.

Monitoring of water quality shall be undertaken within the Ballycomey River, with samples taken every second day during the week leading up to the commencement of the works, every day during the proposed works, and every second day following the completion of the works. Samples shall be taken from at least two different locations, including at least one location at an appropriate distance upstream of the proposed development and at least one other at an appropriate distance downstream of the proposed development. The locations of the monitoring stations will be decided by the Employer’s Representative and the Employer’s Ecologist.

The results of the water quality monitoring programme will be reviewed by the Employer’s Representative and Contractor’s Ecologist on an ongoing basis during construction. In the event of any non-compliance with regulatory limits for any of the water quality parameters monitored, an investigation shall be undertaken to identify the source of this non-compliance and corrective action will be taken where this is deemed to be associated with the proposed development.

Vegetation removal will be carried out mechanically, wherever possible. If herbicides are used, the Contractor will adhere to legislation, regulations, and best practice guidelines for the use of herbicide near water and in European sites.

“Further details of [...] the silt trap into which water will be pumped, its capacity and proven effectiveness [must be provided]. The predicted volume of water to be pumped based on stream flow data should also be provided along with monitoring requirements to ensure effective functioning.”

Two dams will be constructed in advance of the works; one on the upstream side of the structure and the other on the downstream side of the work area. A flume will carry the river water from the upstream side of the bridge across the work area at an

elevation of approximately 100mm before depositing it on the far side of the dam on the downstream side. The stream will be redirected through the flume using gravity only. As this water will have no interaction with the work area, there is no opportunity for this water to collect any sediment, therefore a silt trap is not required. Nevertheless, a large rock/pile of rocks will be placed under the outflow of the flume in order to dissipate the energy of the flow to avoid excessive scouring of the riverbed. Once the dams are constructed and the flume is in place and functioning, the work area will be dewatered using a pump. Additionally, any water that has collected in the work area during the works will be pumped out before the dams are removed. This water will be pumped onto land, at least 25m from the river's edge, and the water shall pass through a silt sock at the end of the flume during this process.

The size and capacity of the pump will determine how long it takes to clear the work area. There is currently no data available on the rate of flow at this area, however the stream is very small during normal flows. The flume will be a 300-500mm plastic pipe, which is big enough to accommodate normal flow volumes.

The water downstream of the structure will be monitored for concentrations of suspended solids daily while the works are being carried out to ensure that the dams and flume are working effectively in avoiding sedimentation of the river water.

"Any details to be included in the proposed Method Statement which will be relied on as mitigation and are not already included in the NIS."

There are no further details to be included in the proposed method statement which will be relied upon as mitigation that are not already included in the NIS.

"The Department considers that physiochemical monitoring is required downstream of the works and should be included in the NIS. Specific monitoring points should be specified."

The physiochemical monitoring requirements are specified in table 2.2 above. The monitoring station can be located anywhere between the location of the proposed works and the confluence of the Ballycomey River and the River Dinin. The sampling must take place before the Ballycomey River begins to mix with the River Dinin in order to obtain accurate results.

"Details of the mobile catch net or plastic sheeting will be used to prevent mortar and/or wet concrete falling into the river channel."

Visqueen heavy duty plastic sheeting or similar will be used as the plastic sheeting to prevent any mortar or wet concrete entering the stream (see Appendix A for product data sheet). There will be enough plastic sheeting to cover the entire area underneath the works, which will be carried out while the riverbed is dry only.

"Details of the flume which will be constructed to carry the stream through the structure including the screen at the inlet to prevent fish and debris entering it."

The pipe used to flume flows through the work area will be a 300-500mm diameter pipe depending on the flow volumes, laid 100mm above the riverbed with graded natural rock bunds formed at inlet and outlet. The pipe will be fitted with a filter at the inlet, with gaps no bigger than 1mm in diameter, to ensure fish do not enter the flume.

“Consideration should be given to removal of fish and crayfish prior to dewatering by electrofishing for example.”

Prior to the works, the work area will be searched thoroughly for White-clawed Crayfish. Any Crayfish found will be removed by hand and released downstream of the work area. Electrofishing will be carried out once the White-clawed Crayfish have been removed in order to remove any fish trapped within the same area. These fish will also be released downstream of the work area. A license will be required in order to carry out any electrofishing.

“The NIS states that it is likely that the repairs to the spandrel walls, wingwalls and abutments will be carried out while the riverbed is dewatered, however this may not be the case. Mitigation for both scenarios should be clearly outlined in the NIS.”

The repairs to the spandrel walls, wingwalls and abutments will only be carried out while the riverbed is dewatered. This will reduce the likelihood of any pollutants entering the water.

2.4.2 Otter

“The mitigation section of the NIS states that the area inside the dam will be fitted with a ramp to allow otter to escape and that otter will be prevented from entering pipes by using screens, silt bags or other capping. However, this may mean that commuting otters will be directed onto a national road to re-join the stream. This should be clarified and if this is the case, the possibility of road casualties should be assessed.”

The ramps will allow Otter to climb over the dams and across the area in which the proposed works will be carried out, rather than blocking their path and forcing them to cross the road.

“The existing culvert may be a barrier to otter movement, particularly, if the stream is prone to high flows in the culvert. It is not clear whether the proposed works will increase this barrier effect.”

The proposed works will not alter the pipe culvert itself, therefore the works will not increase the barrier effect that this structure currently creates for Otter.

2.4.3 [REDACTED]

[REDACTED]

[REDACTED]

2.5 Assessment of In-combination Effects

“The Department notes that the project is location adjacent [sic] to Erin’s Own GAA club and the Castlecomer Business Park. The cumulative impacts of these

developments on water quality, including surface water run-off from car parking areas, should be assessed in combination with the proposed project.”

Cumulative impacts on water quality, originating from car park run-off from the Erin's Own GAA Club and Castlecomer Business Park, will be insignificant, in the context of existing diffuse pressures, including intensive agriculture, untreated road run-off and other sources of pollution, on the Barrow and Nore catchments. The potential for residual effects from the proposed works following the implementation of mitigation measures has been eliminated. Furthermore, the proposed works will last 2-3 weeks only, after which time the potential for accidental pollution will be nil. Therefore, the proposed works will not give rise to effects that could combine with those from the adjacent properties to create an adverse effect on the Qualifying Interests of the SAC.

2.6 Other Ecological Impacts

“In the interests of biodiversity protection, the Department recommends that the following surveys should take place prior to the commencement of this project; breeding bat and nesting bird surveys”

The bat suitability assessment was carried out at the structure and the surrounding vegetation that will be affected by the proposed works on the 8th of April 2021. The bat suitability assessment was conducted adhering to best practice guidance (TII/NRA, 2006; Collins (ed.), 2016) and involved a visual assessment and categorisation of the bridge structure and trees capable of supporting roosting bats. The assessment was carried out using the recognised criteria outlined in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins (ed.), 2016). The vegetation and trees surrounding the structure did not support any suitable roosting opportunities and while there were some gaps in the masonry of the bridge, most of these were wet and unsuitable. The bridge was thoroughly checked for bats and none were found.

To comply with Inland Fisheries Guidelines on the timing of in-stream works, the works will take place before the end of September. The works require the removal of vegetation during the period of the 1st of March to the 31st August, which under normal circumstances would constitute an offence under Section 40 of the Wildlife Act 1976 (as amended). Section 40 contains a number of exemptions, including Section 40 (2) (e) *the clearance of vegetation in the development or preparation of sites on which any building or other structure is intended to be provided*. Wild birds and their nests are protected under Section 19 of the Wildlife Act 1976 (as amended). To comply with Section 19, the EcoW will check all vegetation to be removed for nesting birds prior to clearance. If any nesting birds are found, the vegetation will be left until the breeding effort is complete and all birds have left the nest.

3. CONCLUSION

It is the view of the authors that it has been demonstrated, beyond all reasonable scientific doubt, that the proposed development will not directly, indirectly or cumulatively, give rise to effects on the Qualifying Interests within the relevant Designated Natura 2000 Sites.

4. REFERENCES

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APPENDIX A

Visqueen plastic sheeting product data sheet

Visqueen Clear Temporary Protective Sheeting (TPS)

Features and benefits

- Virgin polymers - providing high visual clarity
- Large roll formats - Ideal for draping, screening, covering or hanging
- Barrier properties - provides protection against showers and dust
- LDPE based - reusable and recyclable
- Multi-use - provides protection for various light duty applications whilst buildings undergo refurbishment or in new build projects
- Manufactured in the UK by Visqueen

Product description

Visqueen Clear TPS is a high quality clear polyethylene temporary protective sheeting which provides high visual clarity. It is supplied on a core in rolls of 4m x 25m.

Approvals and standards

- Quality Management System ISO 9001:2015
- Occupational Health and Safety System ISO 18001:2007
- Environmental Management System ISO 14001:2015

Usage

Visqueen Clear TPS is a polyethylene sheeting that provides effective protection in demanding on site conditions. It is suitable for screening, wrapping large objects and other site construction materials such as bricks, blocks, timber and plasterboards. It's ideal for when the protected product(s) needs to remain visible from beneath the sheeting. It can be used in various other applications whilst buildings undergo refurbishment work, or in new build construction projects whilst also providing protection from showers and dust.

System components

- VisqueenPro Single Sided Tape, 75mm x 25m

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NON-COMBUSTIBLE DPC

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A2 - s1, d0 to BS EN 13501-1:2018

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Visqueen Clear Temporary Protective Sheeting (TPS)

Storage and handling

Visqueen Clear TPS should be stored horizontally, under cover in its original packaging.

Care should be taken when handling the product in line with current manual handling regulations.

Preparation

Visqueen Clear TPS can be cut with a sharp retractable safety knife or robust scissors.

Surfaces to be covered should be free from sharp protrusions. The film should be installed as soon as all surfaces or fixtures are clean.

Installation

Unroll Visqueen Clear TPS and cut to fit the area that needs protecting.

For large covered areas it may be necessary to lap adjacent film sheets and a taped joint is recommended to ensure continuity of protection. When taping, allow an overlap of at least 50mm and secure the joint using VisqueenPro Single Sided Tape. Prior to taping ensure that the lap area is clean and free from dust and any moisture.

Usable temperature range

It is recommended that Visqueen Clear TPS and the associated system component should not be used below 5°C.

Additional information

The product is recyclable and categorised under LDPE recycling code 4.

Visqueen is part of Berry bpi, the largest European recycler of polyethylene. This product is recyclable and should be segregated on site in accordance with site management procedures for plastic waste. We have 4 recycling sites in the UK where the plastic waste could be recycled and converted back into a second life product. Please contact us to find out more.



Visqueen Clear Temporary Protective Sheeting (TPS)

Property	Value
Roll size	4m x 25m
VisqueenPro Single Sided Tape - roll size	75mm x 25m

Health and safety information

Refer to Visqueen Clear TPS material safety datasheet (MSDS)

Visqueen Clear Temporary Protective Sheeting (TPS)

About Visqueen

The Visqueen name has long been recognised as one of the leading manufacturers of high quality advanced membrane technologies and design based solutions by specifiers, distributors, builders merchants and contractors throughout the UK and Europe.

For further guidance on the Visqueen services shown below, please refer to the relevant section of the Visqueen website (www.visqueen.com) or contact Visqueen Technical Services on +44 (0) 333 202 6800 or enquiries@visqueen.com

Complete Range, Complete Solution



Structural Waterproofing



Gas Protection



Damp Proof Membrane



Tapes



Damp Proof Course



Stormwater



Vapour Control

Visqueen Technical Support

Visqueen combine an extensive product portfolio with industry leading levels of service and support which includes guidance over the phone, bespoke CAD drawings to help with complex detailing, electronic NBS specifications and access to a dedicated team of highly knowledgeable and experienced field based Technical Support Managers.

Visqueen Technical Support is available to all our customers including architects, specifiers, distributors, builders merchants, contractors and end users. All of our technical team have been awarded the industry recognised qualification Certificated Surveyor in Structural Waterproofing (CSSW).

Visqueen CPD Seminars

The Visqueen Continuing Professional Development (CPD) Seminars provide up-to-date information on changes within Building Regulations/Building Standards and nationally recognised industry guidance affecting damp proofing, water vapour control, hazardous ground gas protection and below ground structural waterproofing.

The one hour seminars have been produced for design specialists within the construction sector and are delivered by our team of Technical Support Managers.

Visqueen PI designs and special projects

From initial design to the completed project, Visqueen are with you every step of the way. Whether it be hazardous ground gas protection and/or below ground waterproofing protection employing barrier, structurally integral or drained systems, Visqueen can offer professional indemnity (PI) insurance for bespoke Visqueen design solutions.

Visqueen Technical Support Managers work with all stakeholders to provide cost effective Visqueen solutions offering complete peace of mind throughout the construction phase and beyond.

Visqueen Training Academy

Based at our manufacturing facility in Derbyshire, the Visqueen Training Academy is available to support Visqueen customers throughout the UK by providing a wide range of both theory and practical skills related training.

Courses include one day product awareness training for our distributors and builders merchants to help them in their day-to-day jobs, through to intensive three day courses giving detailed hands-on training in the practical skills required for safe and robust product installation.