An Bord Pleanála

Inspector's Report
ABP-300401-17

Development	Upgrade and extension of water treatment plant at Troyswood including new raw water intake from River Nore, construction of new treated water rising main of about 2.8kms between Troyswood WTP and Radestown WTP, across fields, under the River Nore, under and in public roads and works at Radestown WTP.
Location	Troyswood, Loughmerans, Baun, Radestown North/Radestown South, County Kilkenny.
Planning Authority	Kilkenny County Council
Planning Authority Reg. Ref.	16/801
Applicant	Irish Water
Type of Application	Permission
Planning Authority Decision	Grant with Conditions
Types of Appeals	1. Third Party V grant (2 no.) 2. Applicant V conditions
Appellants	1. Robert McGarry

	2. Killian & Margaret McGlynn 3. Irish Water
Observer	None
Dates of Site Inspection	13th March and 25th May 2018
Inspector	Mairead Kenny

Contents

1.0 Introduction 5

2.0 Site Description and Project Overview 5

3.0 Proposed Development 8

4.0 Planning Authority Decision 11

4.1. Decision 11

4.2. Planning Authority Reports 12

4.3. Prescribed Bodies 16

4.4. Third Party Observations 17

5.0 Planning History 18

6.0 Policy Context 19

6.1. National Planning Framework 19

6.2. Irish Water's Water Services Strategic Plan 19

6.3. Irish Water Capital Investment Plan 2017-2021 19

6.4. South-East Regional Planning Guidelines 2010-2022 19

6.5. Kilkenny County Development Plan 2014-2020 20

6.6. Designations – Natural Heritage and Other 20

7.0 The Appeal 21

7.1. Grounds of Appeals 21

7.2. Applicant Response 23

7.3. Planning Authority Response 23

7.4. Observations 23

7.5. Further Responses 23

8.0 Oral hearing 23

9.0 Assessment 24

9.1. Principle of development 25
9.2. Surface water, Groundwater and Flood Risk 32
9.3. Appropriate Assessment 42
9.4. Ecology 55
9.5. Noise 56
9.6. Landscape, visual and residential amenity 60
9.7. Roads, Traffic and Related Matters 63
9.8. Archaeology 65
9.9. First Party Appeal 66
9.10. Environmental Impact Assessment 68
9.11. Legal and procedural matters 68
10.0 Conclusions and Recommendation 69
11.0 Recommendation 70

1.0 Introduction

This case relates to the Kilkenny City Water Supply Scheme. It involves works to existing water treatment plants, Troyswood Water Treatment Plant (TWTP) and Radestown Water Treatment Plant (RWTP), provision of a new 2.8km treated water rising main between the plants, a new raw water intake from the River Nore and other works. It would provide for all treatment to be consolidated at TWTP, which would have an upgraded capacity to provide an increased treated water supply of 17.5MLD to Kilkenny city and environs. That would involve abstraction from the Nore in the amount of 19.085 mega litres per day (MLD), which is the level of the existing abstraction order. RWTP is on the EPA Remedial Action List (RAL) due to trihalomethane (THM) exceedances.

The application is accompanied by a Natura Impact Statement. There is no requirement for EIA. The proposed development is subject of two concurrent applications which were jointly considered at an oral hearing held on 29th May 2018.

Case reference ABP300401-17 relates to the project works as described above. That application was subject of a decision by Kilkenny County Council to grant permission. It is before the Board on foot of 3 no. appeals. The 3rd party appeals relate largely to noise and residential amenity issues and the 1st party appeal relates to financial contributions. Land owners gave consent to the making of the planning application.

Case reference ABP300781-18 relates to the Compulsory Purchase of lands. It is a direct application to the Board. At the time of writing there are outstanding objections to the CPO on the part of 6 no. land owners.

Due to the interrelationship between the two cases the Board may wish to jointly consider cases ABP300401-18 and ABP300781-18.

2.0 Site Description and Project Overview

2.1. The site comprises the lands associated with two established water supply facilities which are to be upgraded and to lands in between, where a 2.8km connecting pipe is to be constructed. The location of the proposed development is a rural area a few kilometers north of Kilkenny City. The River Nore runs north-south through the area

and the existing Troyswood facility is to the west of the river while Radestown is to the east. Apart from the roads and river valley the other relevant land use in this area is quarrying. This includes a large sand and gravel facility which immediately adjoins the area designated as SAC / pNHA at Loughermans through which the site passes.

The site follows public roads in some places, traverses through agricultural lands and Natura sites. The western side of the TWTP is bounded by the Kilkenny to Freshford regional road R693, which is the route also to the M9 at Urlingford and from there to the west and south of the country. The pipeline route would pass under the N77, the road to Portlaoise, which is would be the main route to the midlands and west of the country.

In summary the existing water supply infrastructure to Kilkenny and environs from TWTP and RWTP comprises:

- Supply is from two reservoirs

  – Thornback (5.8MLD) which is positioned to the south west of TWTP and is supplied from that facility

  - Radestown reservoir at the RWTP which supplies 5.1 MLD

- Intake of raw water to TWTP from Nore and treatment by way of a clarification and filtration process followed by disinfection by UV, chlorination and fluoridation

- Intake of raw water from River Dinin and Douglas River (via Muckalee Impoundment) and treatment at RWTP by way of slow sand filtration process followed by disinfection.

TWTP is the largest of the two existing water supply facilities and on completion of the project, if permitted, it would be the location of all processing activity. The plant is located at the eastern side of the R693 on lands which slope towards the River Nore at the eastern side boundary. The main works is housed in a building of industrial character, which is finished in brick and which is 64.2mOD at roof level, above a level of 61mOD approximately at the adjacent road. To the south of the brick building are a range of open treatment tanks and ancillary infrastructure.

The existing facility at Troyswood is positioned close to the regional road with an entrance at the northern end where the buildings are located. There is a row of dwellinghouses at the higher ground to the west of the regional road and these overlook the brick building. The site entrance is presently located at the northern end of the facility and there is also a setback area at the road frontage at this location. There is a second entrance at the south of the brick building. To the north is the parking area. The existing intake from the Nore is due east of the complex of buildings.

The lands to the north of TWTP comprises open fields, which are in pasture. This area comprises about half of the overall site and is to be acquired from Kilkenny County Council with a view to extending the existing facility. The land is bounded to the north-east by 2 no. dwellinghouses which are owned and occupied by the third party appellants. To the west is the regional road and to the east the River Nore. At its northern end close to the Nore is a derelict pumphouse building, which apparently used to serve a nearby quarry. The proposed development would include a new water intake from the Nore at this location just north of Troyswood weir and about 30m from the edge of a garden. In this large field also is a natural hollow which is to be utilised in the construction of an attenuation pond in the redeveloped facility.

2.2. To the south of the existing built complex is a turning area for entry of large vehicles which take solid wastes away from the plant about once a week. The existing water intake is to the east in an area, which is at times inaccessible due to flooding. The proposed development would involve construction of open tanks and other infrastructure at the lands to the south of the existing plant.

2.3. The pipeline route would follow the line of the Nore parallel to river and outside of the designated River Barrow and River Nore SAC and River Nore SPA. At a position approximately 400m to the south of the main plant the pipeline route after passing through open fields turns eastward and passes under the Nore SAC / SPA. On the east bank of the river the pipeline again crosses a field, then under the very narrow Bleach Road, following a route parallel with a stream before crossing it and then re-entering the SAC along private lands in made ground. This is referred to variously as Dunmore Complex / Loughermans ponds. In all there are three ponds the southerly one being set in open pasture, the other two located in the middle of scrub

/ woodlands. I will further describe this section of the pipeline route in the Assessment section of this report.

2.4. Next the pipeline passes under the N77 and follows a route along a public road involving a water crossing and again entering agricultural lands and following an uphill route before reaching the Radestown plant.

2.5. The pipeline route passes close to houses at a number of locations including at Bleach Road and close to the N77 and Pike Road / Radestown Lane. The ground level of the land which is traversed is c.48mOD at the new raw water intake, c.60mOD at TWTP, reducing to c. 48.2mOD at the River Nore crossing, rising to c. 52mOD at Loughermans ponds in the SAC, c.54.4mOD at the N77 and reaching c.68mOD at RWTP.

2.6. At RWTP which is at the end of a private gated laneway there are two houses which are in the ownership of the applicant. Other small structures on site are a site works unit and a chlorination building. The covered reservoir and the sand filters take up a lot of the site. If the development proposed is permitted and implemented the RWTP would be used only for storage of treated water in the existing reservoirs with the existing water distribution infrastructure being utilised.

2.7. Photographs of the site and surroundings which were taken by me on the days of inspection are attached.

3.0 **Proposed Development**

3.1. The need for the development is stated to be related to the need for increased supply at Kilkenny and secondly to address the problem of THM formation at RWTP. I provide further details relating to the stated need for the development in the Assessment section of this report.

3.2. The development provides for an upgrade of the Troyswood Water Treatment Plant involving a new raw water intake facility on the bank of the Nore, with an abstraction capacity of 19.085MLD which is the limit of the abstraction licence. As up to 10% of water will abstracted will be returned to the river as used-washwater the net volume abstracted will not exceed 17.18MLD.

3.3. The proposed development comprises:

- New intake and pumping station, chemical storage and treated water pumps building, new residuals treatment building, relocated DWIRP building, extension to existing treatment building, new treated water storage tank, new process tanks at Troyswood.
- Internal access roads and paving, process and surface water pipes, decommissioning of existing intake, attenuation basin, new on site waste water treatment system, landscaping and fencing at Troyswood.
- Construction of 2.8 km long 450mm diameter treated water rising main between TWTP and RWTP including crossing under the River Nore and the N77 and requiring a trench width of approximately 900mm in places along local roads.
- Crossing of Nore by way of no-dig construction and no instream works – requirement for launch and reception pits.
- Requirements for valves and connections the locations of which are identified along the pipe route.
- Future use of Radestown as a storage reservoir from which water would be distributed using the existing network.

Further details of the proposed development as submitted with the application are:

- Increase in stated floor area of buildings at TWTP from 533m^2 to 2,864m^2 to include a large structure covering process tanks which is of stated area of over 1,000m^2
- Other buildings of note in terms of scale are the chemical storage, high life pumping station and the electricity substation which would have a combined area of about 1,000m^2
- Buildings will not exceed 10.5m in height above ground level - external finishes to include brick and metal cladding.
- Would operate on a 24 hour basis and employ 5 persons.
- New access point and parking for 10 cars.
- Staff facilities including canteen and on-site wastewater treatment system.

- Sludge holding and dewatering facilities with disposal to licenced site.
- Surface water disposal measures including attenuation pond.

The application presented contains a number of reports, including:

- A Natura Impact Statement
- Ecological Impact Assessment
- Draft method statement for crossing Nore
- Outline Construction and Environmental Management Plan
- Clear Water Tank Emergency Overflow Assessment Report
- Drainage and Water Supply Assessment report
- Photomontages and landscaping drawings
- Flood Risk Assessment.

3.4. Following a request for further information revised proposals were received on 23rd of October 2017 including the following.

Significant amendments to the design of the extension works main building involving

- Removal of cladded building extension - existing and proposed process tanks are not enclosed – highest level of tank is 64.8mOD compared with height of 67.62mOD of the building.
- UV room dimensions reduced.
- Decrease in floor space of extensions to 127 square metres compared with the original 1, 482 m².
- Increase in area devoted to tanks.

Furthermore, submissions were received to address issues and update the project documentation including:

- Noise Impact Assessment Report of Damien Brosnan Acoustics
- Source Assessment Report – relevant to new intake point
- Revised photomontages and revised landscaping plan
- NIS Addendum

- Draft Statement for Surface Water Monitoring (construction phase)
- Draft Method Statement for In-Stream works and drawings showing locations of silt fences
- revised Drainage and Fire-Fighting Water Supply Assessment Report
- details of external lighting and new entrance sightlines
- inclusion of indicative pathway through site for future Nore walking route
- revision to part of pipeline route with agreement of landowner and involving less works in Radestown Lane
- clarification that decommissioning works at RWTP are to be separate application and carried out following completion of Kilkenny City RWSS.

Section 5 of the NIS contains a useful Description of Works which is relevant to the detail of the potential significant impacts which might affect the qualifying interests of the European sites. I refer to relevant details later in this report.

4.0 Planning Authority Decision

4.1. Decision

The planning authority decided to grant permission subject to 19 no. conditions including:

- Financial contributions in the amount of €61,705 (condition 2).
- Surface water protection including revised proposals for emergency overflow discharge including from the washwater equalisation tanks to be through the attenuation pond in the first instance (condition 3).
- Surface water monitoring in construction phase (condition 4).
- Monitoring of discharge washwater to be strictly in accordance with the FI response – all monitoring and flow data records maintained (condition 5).
- Details of final method statement for in-river works (condition 6).
- General provision relating to water quality and habitat (condition 7).

- Conditions relating to noise emissions in relation to the construction period including the use of rotary piling rather than percussive where suitable and / acoustic screening where necessary (condition 8) and the operational phase (condition 9) and submission for written agreement of the planning authority of a post-commissioning noise survey to demonstrate whether the plant is meeting operational noise limits and setting out and implementing any required mitigation measures (condition 10).
- Conditions relating to waste management plan (condition 11), storage and bunding (condition 12) and operation in a manner to ensure environmental protection ensure public health (condition 13), details of lighting (condition 14).
- Conditions related to sightlines, reinstatement of road openings and carrying out of a stage 3 Road Safety Audit (conditions 14-17).
- Condition relating to protection of archaeological heritage (condition 18).
- Landscaping (condition 19).

A number of notes attached refer – these include a reference to requirements of NPWS to be addressed by condition, requirement for a road opening licence and agreement on a detailed traffic management plan and bond - also matters relating to road closure and fire safety certification.

4.2. **Planning Authority Reports**

4.2.1. Planning Report

Notes the referrals internally to the Environment Section, Roads, Water Services, Parks and the Chief Fire Officer and externally to DAHG (NPWS, NMS) and to Inland Fisheries Ireland and An Taisce. 4 no. third party submissions were received. Further information was requested in relation to 22 items. Response received 23rd October 2017 including public notices. Two third party submissions received in response to the further information.

The FI request relates to:

- Water quality as requested by NPWS (items 1-5) – Environment Section response recommends conditions.

- Environmental issues including wastewater, surface water, abstraction, silt fences, storm-water and noise impacts – the third party objection relating to noise is subject of recommendation of Environment Section who recommend that piling be designed to ensure no breach of 65dBA limit – to be achieved by rotary drilling rather than percussive or the use of additional temporary acoustic screening.
- Items 15-17 relate to access road roads – Roads Section response recommends conditions.
- Items 18-22 relates to parks, visual impact, third party submissions raw water intake and capacity – current intake is unsuitable in low water periods – weir is in critical condition.
- Permission recommended.

4.2.2. Planning Reports

The original report notes as follows:

- Further information required relating to the need for a new intake and noise impacts including traffic related.
- Regarding visual impact, the applicant could consider a non-reflective finish – scale of buildings significant and this is a predominantly rural setting but having regard to ground levels on the site, which are below that of surrounding residential development, the nature of the site and its long established role at this location, the design of the proposed development having regard to photomontages and landscaping it is considered acceptable at this location.
- Includes a description of the rising main and its route including in relation to the SAC boundary and the crossing of the river and watercourses.
- Description of the storage of waste products including wash water discharge to river and sludge thickening prior to removal off site.
- Flood risk assessment conclusions noted.
- Archaeological assessment conclusions noted.

- site characterisation forms (T value 0.69, P value 3.11) and proposed packaged wastewater treatment system and polishing filter noted.
- Classes 4 and 12 apply in relation to financial contributions.

4.2.3. **Other Technical Reports:**

Environment Section (Final report) notes the concerns of the 3rd parties, the fact that operational noise limits proposed are in excess of the norm (more onerous) but are appropriate nonetheless, commitment by applicant of a post-commissioning noise assessment and additional mitigation as necessary, which should include assessment of low frequency noise. Relating to construction noise limits applicant's proposals are satisfactory. Noise assessment report on the matter of piling operations which has potential to increase noise levels above the general 65 dB LAeq (60 minutes) limit, appears to suggest mitigation by way of consultation and timing of works. Alternatively, this section recommends that piling should be designed to minimise noise levels and ensure no breach of the 65 dBA construction limit proposed, to be achieved possibly by use of rotary drilling or use of additional temporary acoustic screening. All works need to be programmed such that there is no breach of the 65 dBA limit. Water quality issues have been satisfactorily addressed in the response to further information.
No objection subject to conditions relating to water quality, noise, waste, storage areas and bunding, air emissions and lighting.

4.2.4. **Environment Section (original report) r**ecommends further information relating to:

- Monitoring and reporting of all effluent discharges in the operational phase.
- Detailed surface water monitoring programme for construction phase.
- Draft method statement for in-river works associated with abstraction including pumping from the coffer dam which shall ensure treatment of suspended solids to under 25mg/l.

- Similarly, for in-stream works associated with the proposed rising main across smaller streams/watercourses to demonstrate that there is no deterioration in water quality.
- Locations of silt fencing and their design.
- Stormwater attenuation proposals which shall ensure no increase above existing and if possible existing flows to be reduced.
- Construction phase noise assessment including identification of the noise sensitive receptors and detailed and specific construction phase mitigation.
- Operational phase noise assessment to include characterisation of existing background noise at proposed intake and existing facility and nearby sensitive receptors, quantification of expected noise from proposed pumping station at intake and new pumping arrangements at main treatment complex and noise associated with proposed access road between the intake and the main treatment complex and of the likely noise levels at nearby sensitive receptors and necessary mitigation to ensure complies with limits.
- Details of any operational phase lighting.

Road Design (Final Report) notes the significant further information including relocation of the entrance to achieve acceptable sightlines, permanent closure of existing northern access and limited use of existing southern access. No objection subject to conditions relating to sightlines, trench reinstatement and carrying out of a stage III Road Safety Audit of the constructed development on completion. The report also refers to measures which will be determined as a requirement of road opening licence/closure of public road, including traffic management.

Road Design (Original Report) refers to the improved safety arising from decommissioning of the northern access. Applicant to submit sightlines showing the development access appropriate for the 80kph regional road and proposals for the provision of the visibility splay in the southern direction. Trench reinstatement and other construction phase requirements.

Parks Section notes the reservation of the 10 m wide strip along the riverbank for any future development of the River Nore Linear Park or a linear walk along the river to the rear of Troyswood.

Assistant Chief Fire Officer report – fire safety certification required before works commence.

4.3. Prescribed Bodies

4.3.1. Inland Fisheries Ireland

Significant interaction and consultation has taken place between the consultants for Irish water and IFI in advance of the submission of the application. Account has been taken of the issues of concern in terms of our statutory remit. IFI wish to acknowledge progress made during the preplanning consultation process and undertakings provided by the applicant in terms of construction and long-term operation. In the event permission be granted subject to imposition of one condition IFI has no objection. The condition is related to continuous monitoring and recording of pH and Chlorine levels in discharges, to linking of such monitors to alarm and autodial facilities to alert relevant management and maintenance staff in the event of pH being outside the limits of 6 and 9 or Chlorine levels exceeding 2 mg/l.

4.3.2. Department of Culture, Heritage and the Gaeltacht

In a Nature Conservation report dated 15th of November 2017 it is recommended:

- Emergency overflow proposed to be discharged by way of the existing intake should instead be diverted through the proposed attenuation pond.
- Emergency overflow from the wash water equalisation tanks should be diverted through the proposed attenuation pond.

In the Nature Conservation report dated 13th of January 2017 the following comments are included:

- The site is partly within the SAC, SPA and pNHA.
- The findings of the NIS and EcIA and the extensive mitigations proposed to avoid impacts on these designated areas are noted.

- Further information is required in relation to the quality of settled water from sludge dewatering including the existing discharges and future monitoring and contingency measures in the event of breach of allowable concentrations.
- Consideration to be given to constructed wetland for purpose of discharge of settled water from sludge dewatering.
- Notes 2.5 hour capacity of Clear Water Tank – query in relation to emergency response in event of overflow (of chlorinated water) from attenuation tank.
- Monitoring of concentrations of discharge of chlorinated water and contingency in event of exceedance of EQS (given as 0.005mg/l) – relevant to overflow of attenuation pond and flushing of mains.
- Water abstraction impacts – tables 8.3 and 8.4 of NIS do not show results for all stations (only 3 of 101 are shown) – these are requested – also further information on monitoring to measure actual river water levels and contingency if abstraction results in lower flows that those modelled.
- CEMP – further details of design and deployment of silt fences and measures relating to risk of invasive issues species.

In a report on Cultural Heritage dated 10th of November 2017 it is recommended:

- Geophysical survey be undertaken for archaeological purposes to assess and identified feature – further requirements in advance of works may arise
- Ground works to be subject to archaeological monitoring under licence
- Any revisions to river crossing shall be subject if necessary to underwater archaeological impact assessment
- All works on riverbank shall be subject to archaeological monitoring as detailed above.

4.4. **Third Party Observations**

Observations (4 no.) were received from residents of houses in the immediate vicinity. The issues raised relate to:

- Changes to site layout which includes relocation of noise generating activities including the pumping station very close to residential areas and associated gardens.
- Impact on residential amenities and quality of life and ability to study, make a living and sleep.
- Inadequate information relating to the noise levels of plant, operating times.
- Enclosed WHO report relating to health impacts of noise.
- HGV traffic levels and time of arrival.
- Intake access road will hinder access to boundary hedge for maintenance, as will tree planting.
- Planting outside of site boundary will obscure view – concerns relating to visual impact of new buildings.
- Impact of development lighting and of solar reflections from buildings.
- Devaluation of property.
- Not clear why existing intake / location not adequate.

5.0 **Planning History**

Apart from a pre-application consultation there is no recent relevant planning history related to this site.

The concurrent CPO case ABP300781-18 has been referenced previously.

There are a number of permissions relating to the quarry to the north of Loughermans ponds.

Under PL10.QC2095 the Board in a decision dated 10th March 2008 relating to a quarry to the north of Loughermans ponds decided that continued operation of the quarry activity at the western side of the overall holding should cease within 5 years of the decision.

An application for extension of duration of permission 07/2226 was granted by Kilkenny County Council on 3rd of April 2014 up to 29th September 2019. This relates to a similar (but more extensive) plot of land as above.

Both of the above adjoin a long narrow plot of land which is designated as Dunmore Complex pNHA and AS River Barrow and River Nore SAC.

6.0 Policy Context

6.1. National Planning Framework

References the critical importance of investment in water services infrastructure in terms of implementation of the National Development Plan. Identifies health risks to drinking water as one of the key national environmental challenges.

There is a requirement under National Policy Objective 63 to ensure the efficient and sustainable use and development of water resources and water services infrastructure in order to manage and conserve water resources in a manner that supports a healthy society, economic development requirements and a cleaner environment.

6.2. Irish Water's Water Services Strategic Plan

This established the objectives for the delivery of water services to 2040. Specific objectives listed include ensuring a safe and reliable water supply including in relation to supporting social and economic growth.

It is an objective under WS1f to prepare and implement strategies to manage other quality issues in water supplies.

6.3. Irish Water Capital Investment Plan 2017-2021

This identifies capital investment for the period up to 2021. The Kilkenny Regional Water Supply Scheme is identified.

6.4. South-East Regional Planning Guidelines 2010-2022

The RPGs identify amongst the priority actions for infrastructure the provision of high quality water service infrastructure in order to support planned population growth and economic development.

6.5. **Kilkenny County Development Plan 2014-2020**

The Core Strategy sets a target population of 28,200 by 2022, while the 2016 census reported a population of 26,512 for Kilkenny city.

Chapter 9 addresses infrastructure and environment including water services. 20 water supply schemes are in place in the county. The water supply schemes to be prioritised for investment, which are aligned to the settlement strategy include Kilkenny City Regional Water Supply Scheme.

Improvements undertaken to water services infrastructure listed includes a reference to Radestown reservoir, the repair of which was completed in 2012.

In the establishment and maintenance of water sources the Council will consult with EPA publications including the EPA's Remedial Action List.

A water conservation program is underway across the county. The importance of the quality of drinking water supplies is noted as is the practice of ongoing monitoring on a daily basis.

The programme outlined in the water services investment programme will be implemented.

Objective 9G is to adopt a comprehensive risk based approach to flood management to prevent or minimise future flood risk. In accordance with relevant guidance for planning authorities the avoidance of development in areas where flood risk has been identified shall be the primary response.

Objectives relating to protection of views includes the view from Bleach Road (located at the east of the Nore) to the river valley.

6.6. **Designations – Natural Heritage and Other**

The site includes lands which are within the following designations:

- River Barrow and River Nore SAC (Site Code 002162)
- River Nore SPA (Site Code 004233)
- Dunmore Complex pNHA (Site Code 001859) – this overlaps with the SAC.

Part of the buffer zone of a recorded monument KK014-063 is within the site.

7.0 **The Appeal**

7.1. **Grounds of Appeals**

Mr Robert McGarry:

- The original plant is 30 years old, serves Kilkenny and there were no problems with it. The supply is now to extend to Radestown, the existing pumphouse should be extended at the same location. It is possible to increase the intake from the Nore while keeping the pumphouse in the same position.
- The proposed development will impact negatively on the amenity of adjoining residents by way of noise.
- The weir is destroyed and in summer months water flows only in a deep gap between it and the bank, which is where the salmon rest or pass through and where the intake is proposed. The development may prevent salmon getting up river.

Mr Killian McGlynn and Mrs Margaret McGlynn:

- WHO refer to outdoor noise levels of 55dB as a serious annoyance – 65 dB has been authorised.
- 65dB is twice as loud as 55dB as outlined in the explanation provided by our son who has studied Acoustics and Psychoacoustics to PhD level.
- The report of Damien Brosnan refers to emissions up to 101dB from plant which will be in operation for 18months minimum – the collective noise level will be over 101dB.
- Construction phase noise will be dangerous and unacceptable.
- In the operational phase the pumps in the pump halls will generate high amplitude noise and operate 24/7. The pumps have not been selected. Castletownbere is of no relevance.
- Other sources of noise and aspects of concern are referenced including the hum from the electrical transformer, the opening of doors and roller shutter, use of the access roadway.

- The maintenance of our boundary hedgerow will be impeded.
- The ambience associated with our home and garden, together with our lifestyle and contentment will be destroyed, our health and well-being damaged and property value reduced.
- Concern that we will be left alone to endure the proposed development if it is approved.

The enclosed technical report refers to:

- The damaging consequences of long-term exposure to even moderate noise pollution.
- The identification of repeated exposure to 65dB as the threshold for increased risk of myocardial infarction and mean exposure of over 55dB as increasing heart attack risk by 20%.
- The non-linear (logarithmic) nature of the dB scale.
- The consequences of prolonged exposure (meaning in acoustic terms of durations exceeding a few hours) to construction plant and noise emissions presented by the applicant.
- The particular issue of the works related to the construction of the access to the front of my home – where I work as a sound designer and music producer and composer – my livelihood will be affected by construction noise of up to 80dB, a level which has potential for hearing damage.
- Failure to address frequency in the documentation – in particular the presence of constant low-frequency operational sounds.
- The fact that A-weighting is used although the WHO advises that when prominent low frequency components are present that scale would underestimate the sound pressure level of noise.
- Assurances that pump emissions will not be tonal or impulsive are not implicit indications that they will not be harmful or intrusive and lack of clarity relating to the 'highly unlikely' occurrence of breaches of the 60dB night time L_{AFmax} criterion.

- Reference to table 9.1 dBA report – and the pumps which will generate emissions of high amplitude running 24/7 and the location of both halls at positions which potentially places such emissions in audible range of nearby NSLs.
- The setting in Table 1 of the dBA report of a maximum operational intensity for night-time periods as 60dB – more than double the stated maximum level – how is this acceptable?

Irish Water Appeal:

- Condition 2 requires the payment of €61,705 as a development contribution.
- This contribution will impact negatively on the ability of Irish Water to carry out its duties.
- The planning authority has not properly applied its Development Contribution Scheme.

7.2. Applicant Response

None received.

7.3. Planning Authority Response

The planning authority responded stating that it had no comments.

7.4. Observations

None received.

7.5. Further Responses

None.

8.0 Oral hearing

The one-day hearing took place on Tuesday 29th May 2018 in the Ormond Hotel Kilkenny. The participants were:

- Irish Water represented by a large team lead by Mr Jarlath Fitzsimons SC
- Ms Arlene o Connor, Senior Executive Planner, Kilkenny County Council
- Mr Callum Bain of Colliers International
- Mr Robert McGarry
- Mr Killian McGlynn and Mrs Margaret McGlynn.

There was no representation from any prescribed bodies.

The hearing concerned the planning appeal and the Compulsory Purchase Order application.

The submissions of Irish Water were accompanied by written texts which are on file. I refer in the assessment section of this report to relevant supplementary information which was presented by the specialists who gave evidence. The applicant's submissions include a Schedule of Commitments, which draws together all of the mitigation measures and proposals into one document.

On behalf of the planning authority Ms O Connor indicated that the sums payable was calculated on the basis of the Development Contribution Scheme as is a requirement. She also indicated that the Scheme had been properly applied.

At the oral hearing there remained 6 no. objectors to the Compulsory Purchase Order procedure. The objectors' case was presented on their behalf by Mr Callum Bain of Colliers International. The objectors are Mr Liam Donegan, Mr Brian Holohan, Ms Carmel Nolan, Ms Anne Brennan and Mr Patrick McKenna and Ms Barbara McKenna.

I refer as relevant in the Assessment section of this report to the content of the hearing. The full recording of the hearing is available for the Board to consider as required.

9.0 **Assessment**

I consider that the issues arising in this case may be considered under the following headings:

- Principle of Development

- Surface water and groundwater
- Appropriate Assessment
- Noise
- Landscape and Visual impacts and residential amenity
- Roads and Traffic
- Flood Risk Assessment
- Ecology
- Archaeology
- First Party Appeal
- Environmental Impact Assessment Screening
- Legal and Procedural matters

9.1. Principle of development

9.1.1. I will consider the principle of the development under the following headings:

- Need for the project
- Planning policy
- Route selection

9.1.2. Need for the project

The need for the proposed development is deemed to be a material consideration for the Board in view of its relationship with sustainable development, as noted by Mr Fitzsimons to the hearing. The applicant has presented the case for the proposed development in a number of documents and in the oral hearing submissions.

The case made by Irish Water relating to the need for upgrade to and extension of TWTP involving a new rising main to RWTP and works at that site is based on the following:

- Inclusion of RWTP on RAL due to inability of slow sand filtration to remove trihalomethane precursors resulting in THM exceedances

- Need to comply with European Union (Drinking Water Regulations) 2014, which can be achieved by enhanced coagulation treatment process at TWTP
- Requirement for an increased water supply - up to level of abstraction order
- Requirement for new intake at TWTP as existing is subject to flooding and sediment accumulation and low flow abstraction difficulties.

As is discussed below, I accept the applicant's case in relation to the need for the development. I consider that the proposed works involving consolidation and treatment at TWTP with increased production levels overall is necessary to ensure the provision of a safe and sustainable water supply for the city and environs. The existing supply from two sources provides a total of 10.9MLD of which 5.1 MLD is from Radestown. The existing situation whereby half of the supply comes from a source which is on the RAL due to water quality issues is not sustainable. I consider that it is reasonably demonstrated that consolidation of treatment at the single location of Troyswood will provide for better regulation and for water quality improvements. The provision of additional treated water storage at TWTP will provide a more robust system through providing headroom in the context of growth in the city and environs. The increase in output overall to 17.5MLD is provided for by the existing abstraction order limit of 19.085MLD.

Regarding the need for a new intake, which is a particular matter of dispute between the parties, I consider that it is demonstrated. I refer the Board in particular to Appendix F of the RFI submission which is the source of some of the information below and on which I base my conclusions. This includes extracts of the Source Assessment Report and the weir condition survey by Murphy Surveys. The results of the Flood Risk Assessment (Appendix H of application documents) have also been taken into account.

I consider that the following may be concluded in relation to the existing and proposed intakes:

1. The regular flooding of the existing intake point makes it inaccessible and as such any necessary maintenance during flood events is fraught with health and safety issues.

2. I note that some of the problems with the existing intake could be resolved by works on site including the provision of improved inlet screens and control of cattle who access the river from the east bank. Appendix F documentation sets out the works which would be required to address flooding. The works required to address flooding and to improve flows would in essence require demolition of the existing intake with a need for construction of a temporary intake to continue water supply to the city.
3. The applicant has identified benefits to retaining the existing intake including the fact that it is an existing assets and that it is proximate to the plant.
4. The location of the existing intake is at a point in the river where there is considerable erosion and deposition, with ongoing evidence of extensive bank erosion and resulting silting up of chambers. This natural condition makes the existing location inherently unfavourable.
5. The existing intake is not suitable at low flow conditions as shown in the applicant's hydraulic assessment. I accept that the existing intake is not suitable for the future abstraction rates when flow is less than the 95%ile flow. There is no reasonable long term alternative solution to this problem of low flow abstraction other than to relocate the intake. Taking into account climate change considerations and the greater level of abstraction, I conclude that the need for a new intake is clearly demonstrated.
6. Regarding the selected point for the new intake Mr Warner for Irish Water advised that the location selected is a natural deep pool 60m north of Troyswood weir. Notwithstanding its poor condition, which is presented in detail in the report of Murphy Surveys (Appendix F) there is no requirement for the weir to be upgraded he stated. The report in Appendix F refers to this matter in more detail. In part the weir is formed by natural contours in the river bed. The channel and bank are relatively stable, even in severe flood conditions. I am satisfied that the selected location has natural characteristics which make it suitable for the proposed intake.
7. A new intake is in my opinion demonstrated to be necessary and the selected site is demonstrated to be suitable in terms of river flow.

There are additional matters which are worth referencing in relation to the drivers for change to the existing system. Radestown supply relates to the source of the water from the River Dinin and Douglas River, by way of the Muckalee Impoundment. Both rivers feed into Nore at a point upstream of the new intake. The abstraction from these small rivers is not meeting the Water Framework Directive as both are 'at risk'.

The matter of alternatives was also considered at the hearing. In particular, the alternatives to the proposal at Radestown was addressed by Ms Cogan in response to questions. While the alternative of groundwater supply to the existing Radestown reservoir have been considered by Irish Water, Ms Cogan indicated that the investigations undertaken concluded that the source would not be sufficient to serve the existing needs of the area or to cater for future demand. I accept this evidence and note that no strong case has been made by any party to the effect that the reservoirs at Radestown should not be continued to be used or that there is suitable available alternative source such as groundwater. The existing Radestown reservoirs were upgraded in 2012.

My conclusion is that the need for the development overall is established as set out above. I also conclude that there is a reasonably demonstrated case to be made for the development as presented, including the consolidation of processing at TWTP and the retention of Radestown as part of the storage and distribution network. I therefore consider that there is no reasonable alternative to the connection of the two sites by way of a rising main. I also conclude that there is a need for a new intake to serve the increased abstraction and to overcome deficiencies with the existing intake, which cannot otherwise be resolved.

I consider that it may be concluded that the proposed development is an appropriate means of addressing the deficiencies in the existing water supply in Kilkenny City and environs and providing for future growth and that the need for the development is demonstrated.

9.1.3. Policy

On the matter of policy provisions I consider that the following are relevant to the assessment of the need for and suitability of the development in principle:

- The importance of high quality infrastructure including drinking water services in the National Planning Framework and the Building on Recovery Capital Plan.
- The objectives of Irish Water's Water Services Strategic Plan and Capital Investment Plan. The specific listing of the Kilkenny scheme under the CIP.
- The reference in the Regional Planning Guidelines to the need for high quality water service infrastructure to support planned growth and the identification of Kilkenny as a 'hub' with a target population of 30,000.
- The increased population target to 28,200 by 2022 from a 2016 level of 26,512 under the Kilkenny County Development Plan.
- The development plan policies relating to the water supply schemes to be prioritised which includes the Kilkenny City Regional Water Supply Scheme.
- The development plan policies relating to consulting the EPA's RAL in the establishment and maintenance of water sources, meeting the requirements of the Drinking Water Regulations and aligning investment to the county settlement strategy.

Based on the above I consider that the proposed development is firmly rooted in and supports and implements a suite of national, regional and county policy measures.

9.1.4. Route Selection

Regarding the route selection, I have identified above the rationale for the upgrade / re-development of the Troyswood and Radestown site. I have concluded that the works proposed at TWTP and RWTP are both necessary and reasonable. The route of the pipeline has to be considered in this context and whether the route selection process was robust and the outcome acceptable. The route selection is described in further detail on the concurrent CPO file. Mr Warner's submissions to the hearing (item 3) contains useful maps.

The route selection process comprised a fairly standard appraisal of options under a multi-criteria analysis taking into account CAPEX, Engineering Best Practice, Environmental, Archaeology and related, Construction Stage Community Impact and Future Development and Maintenance Access. No weighting was formally attributed

to the environmental criteria used for decision making. The study area was restricted to a band of land either side of the direct line between TWTP and RWTP.

Regarding the overall route alignment between Troyswood and Radestown. Mr Bain for the objectors to the CPO lead discussion at the hearing about the options considered. The approach was considered to be narrow in view of the lack of in-depth consideration of routes further south or to the use of existing (and proposed) bridges as a crossing point was discounted. A possible forthcoming decision on legal proceedings in relation to the Kilkenny Bypass was referenced in that regard.

The applicant rejected these options due to distance and the need to avoid the adjacent quarry (to the north). I consider that it was reasonable that the route selection process takes into account a relatively narrow band of land as any other route would be likely to have been very lengthy resulting in significant construction disruption and costs and additional operational costs due to pumping requirements.

Mr Bain as part of his objection to the CPO pointed to the location of launch and receptor pits, which are associated with the river crossing within the floodplain, stating that the duration of remedying the impact on these lands would be lengthy. The IW representatives did not dispute the overall point regarding the flooding of these lands but did refer to the overall length of the Nore in the general vicinity of Troyswood and noted that the selected crossing point is narrow. I accept Mr Warner's response and I note also the comments above regarding possible options at more distance from the TWTP. I am satisfied that the general approach to selection of a route for the rising main is robust and I now refer to details of the route.

The western side of the route (Segment 1) appears to have been guided by the presence of the Nore SAC and the 'Environmental' criteria particularly the shortest crossing of the river. I concur with the route selection report findings and consider that the preference accorded to option 1A is valid.

The next section of the route of the rising main would traverse private agricultural lands which contain a small stream which flows to the Nore from the Dunmore Complex. The route selected 2A is close to the watercourse where land is generally flat. The route 2A, which is longer than 2B is deemed preferable on the basis of all criteria except for CAPEX. I am not fully aware of the basis for the some of the scores assigned in relation to this section but both options traverse the same

landholding and subject to there being no adverse water quality impacts I accept the conclusions of the route selection report.

The original route of Segment 3 (3A) sought to avoid the designated SAC although this was subsequently revised in view of topography, traffic disruption and as stated at the oral hearing, the desire of a landowner to retain the future option of quarrying of the deep gravel reserves. Segment 3A is through reclaimed and re-profiled agricultural grassland within the SAC.

I agree that the potential for disruption to the N77 which would be associated with option 3B should be a material consideration. I am also of the opinion that the length of option 3B and the topography at that location are not advantageous. The lands at the southern side of the Dunmore Complex slope quite significantly resulting in larger costs and disruption associated with excavation as well as likely higher operational costs. My inspection of these lands somewhat alleviated my original reservations about the route selection process and I consider that the re-visiting of the route option through the designated SAC was not unreasonable. I am not convinced that the 'red', 'amber', 'green' attributes were completely rigorously applied. I note for example the project engineer's statement to the hearing that he (rather than the archaeologist) made the determination that route 3A was preferable to the original under the 'archaeology' criteria. Further, while the impact on the 'Environmental' criterion was deemed to be a 'slight difference in preference' the same might be said of 'Archaeology' but no such reference was made. The Score Card and Ranking for segment 3 is not without flaws in my opinion but I am satisfied that the overall conclusion has merit on grounds of CAPEX, Engineering Best Practice and other criteria. Subject to there being no adverse impacts on the SAC, which is considered below I accept the conclusions of the route selection report in relation to Segment 3.

Segment 4 is in public road (Baun Road) throughout and avoids the potential for impact on road side sites, on private lands and will avoid the need to clear trees at field boundaries. It performs relatively poorly under CAPEX in particular but overall scores well. The applicant considers that it will be feasible to avoid significant traffic impacts in addition. I accept the findings of the route selection report in terms of the suitability of the route 4A.

The final segment of lands concerns Radestown Lane which is a cul de sac where there are 18 houses and a number of farms and it also provides access to RWTP. There is no alternative traffic route and works involved in installing the rising main in the public road would result in road closure for 4 weeks. In principle therefore a route through private lands is appropriate and I agree with the applicant in that regard. Therefore, the option selected (option 5A) includes a section along Ballyfoyle Road and a transverse crossing of Radestown Lane before traversing private lands. I accept that this is the preferred option in view of the potential for impacts on houses, walls, septic tanks and other properties associated with routes 5B and 5C.

In conclusion in relation to the route selection process I consider that the process undertaken was reasonable and largely robust. While I have identified a few concerns relating to the assessment undertaken I would also emphasise that there are judgements to be made and that it is appropriate that the Engineering Best Practice be given significant weighting. In that context and subject to no significant impacts including on the European sites, I agree with the conclusions drawn.

9.1.5. I conclude that the development is acceptable in principle and I am satisfied that the broad thrust of the design and layout appears to be rational. The remainder of this report considers the detailed design and impacts of the proposed development.

9.2. Surface water, Groundwater and Flood Risk

As a prelude to consideration of compliance with the Habitats Directive as well as ecological and environmental impacts in general, it is appropriate to refer to the information presented relating to the surface water, groundwater and flood risk. The requirements of the Water Framework Directive to secure and maintain 'good' status also refer.

Having regard to the location and extent of the proposed development and to the matters relevant to the Special Area of Conservation I consider that there is a requirement in this case for a high level of certainty on particular baseline conditions, which once understood can be the basis for mitigation measures. It is also necessary that assessment of impacts on European sites and the environment generally is based on there being no uncertainty about the nature and extent of the development and how it will be constructed. The works involved in the provision of

the rising main as well as the extensive works at TWTP have the potential unless properly mitigated to give rise to very significant consequences on short-term and ongoing water quality and flow.

The Board is referred to the extensive reports presented by the applicant in relation to surface water impacts. These include the Drainage and Water Supply Assessment, Clear Water Tank Emergency Overflow Assessment, Flood Risk Assessment, abstracts from Source Assessment, Site Drainage and Fire-Fighting Water Supply Assessment and various draft method statements and an Outline Construction and Environmental Management Plan. The investigative Report of PGI and the Schedule of Mitigations, which were presented to the hearing are also discussed below.

9.2.1. **Surface water**

Aspects of the impacts on surface water were subject of detailed consideration in the technical reports prepared by officials of the planning authority and the submission of NPWS and IFI. The conditions of the decision of the planning authority are the culmination of the extensive investigations and various detailed reports.

I consider that the potential for surface water impacts in the construction and operational phases is of particular relevance in this case. Due to the very thorough exploration of this matter by the planning authority and the applicant, I am in a position to conclude without extensive explanation, that the potential for significant impacts has been adequately explored and that mitigation and monitoring are fully addressed. I therefore present an overview below of the primary aspects of the development which I consider are of relevance to the Board's decision.

Abstraction and decommissioning

I refer firstly to changes in flow. Due to the return of treated wash water to the Nore the proposed net abstraction is 17.18 MLD. The impact of the increased abstraction at TWTP from the existing level of 5.8 MLD at Troyswood is mitigated by the fact there is presently abstraction from upstream sources which would cease under the proposed development. The combined abstraction from the Dinan, Douglas and Nore is reported as being 10.27MLD. The abstraction was subject of the further information request by the planning authority and a detailed response provided.

The applicant has based proposals on a Hec-Ras model which looked at 4 no. scenarios. The information provided describes the data sources available and I note the availability of good long-term OPW records for a location downstream as well as information from the TWTP and other sources. The assessment of changes in water surface elevation and mean flow velocities demonstrates that the change in the intake location together with the increased abstraction level would not have significant impact, specifically water level changes in the river would be under 0.02m and velocity changes under 0.1m/s. The abstraction is predicted to be 5.6% if the 95%ile flow rate, under which conditions the river would at worst be assigned a 2a 'probably not at risk' status and almost meets the criteria for 'not at risk'. The installation of proposed monitoring together with availability of historic records is a sound basis for future protection of river flow by water conservation measures, if necessary.

I conclude that the abstraction at the Nore is acceptable in terms of the Water Framework. I am satisfied that the new intake point is further justified as it will allow for cessation of abstraction from the Dinan and Douglas rivers, both of which waterbodies are presently 'at risk' under the Water Framework Directive.

I conclude that the development in terms of river flows is in keeping with the WFD.

Attenuation Pond and Clear Water Tank Emergency Overflow

The Clear Water Tank will hold treated chlorinated water, which if discharged directly to the Nore would breach Salmonoid Waters Regulations. In the event of a malfunctioning leading to an overflow from the CWT discharge will be to the proposed attenuation pond where there will be capacity for storage of 2.5 hours of output from the plant. The attenuation pond was considered to be a more viable option than installing a specific treatment at the overflow discharge. It avails of a natural dip in ground level and the required volume of the holding area achieved by construction of an earthen embankment at the eastern side. The attenuation pond is above the 1 in 1000-year flood level and discharge from it will be at a rate which appropriately limits chlorine concentration in the Nore to 0.005mg/l. In addition, the design of the system overall contains a range of alarms and shut off measures to avoid an overflow event from the attenuation pond to the river including measures to remotely shut off intake and to alert staff.

The maintenance and commissioning scouring which will result in waters which will need to be mitigated prior to discharge. These will also be diverted to the attenuation pond as appropriate (at TWTP) or released when flow rates in the river are high enough to secure dilution or collected in a tank and disposed of to the TWTP attenuation pond or to the Kilkenny sewer network.

IFI has requested a single planning condition, which related to continuous monitoring and recording of pH and Chlorine levels in discharges, to linking of such monitors to alarm and autodial facilities to alert relevant management and maintenance staff in the event of pH being outside the limits of 6 and 9 or Chlorine levels exceeding 2 mg/l.

I consider that the proposed development includes sufficient measures to contain water within the site confines as required to ensure protection of water quality.

Other process flows

A proposed used wash water treatment facility will outfall to the Nore below the new intake point. Monitoring for flow rates, for daily volumes and for turbidity. If total suspended solids (which will be monitored by converting from turbidity) exceed the maximum permissible level of 25mg/l a range of mitigation measures will come into play including alarms and shut down of discharge. Tanks have sufficient storage to facilitate temporary shutdown. As the discharge will not contain BOD a constructed wetland as suggested by NPWS would not be of significant benefit.

The applicant's proposals include more descriptions of specific tanks which will be part of the TWTP and which will be fitted with overflow mains providing for direct overflows for which there are no requirements for water quality mitigation measures. The Schedule refers to the collection of emergency overflows which will be diverted to the attenuation pond.

I consider that the above measures are significant in terms of the prevention of adverse water quality impacts on the Nore.

General site drainage

The surface water drainage from some roads including the new access road and part of the regional road and from roofs of the new buildings and some other impermeable areas is by way of a surface water drainage network and to the existing

outfall main south of the intake. The stormwater will mainly be first diverted to the attenuation pond but some will continue to be discharged directly. As such compared with the existing situation the peak runoff rate will be reduced as there will be a reduction in the area which will directly discharge. Water quality of the outfall water will be improved, including by the installation of petrol interceptors.

I refer at this point also to the matter of wastewater treatment, which is considered in the application submissions (Appendix D). The site conditions are not suitable for provision of a standard septic tank / percolation area system due to highly permeable soil conditions. I consider that the provision of a new treatment plant at TWTP to serve 6 p.e. at a location to the north-east of the main complex of buildings and to tertiary treatment level incorporating sand filter systems is acceptable.

The above aspects of the development will provide for suitable general site drainage and for treatment and disposal of wastewater.

Works near River Nore and streams

The crossing of the Nore by no-dig methods is outlined in detail in the NIS following consultation with IFI and NPWS and the applicant confirms that the mitigation set out in that report and in the EcIA shall be undertaken as part of the works. The precise method is left to the contractor. The applicant indicated that there would be no objection to a condition which specified that Horizontal Direct Drilling would not be used. This method would appear to have more potential for adverse water quality impacts. Notwithstanding the mitigation measures presented I consider that on the basis of the precautionary principle the Board may wish to consider precluding this option.

The crossing of small watercourses is subject of a Draft Method Statement, which notes the possible requirement for temporary diversion of these small streams to facilitate works being carried out in the dry. These crossings are likely to take a week and each phase of the works is described and mitigation measures set out including in relation to seasonality, to prevention of impacts on fish including juvenile lamprey which may be present and prevention of water quality deterioration and monitoring.

The control of silt in the construction phase is addressed in detail in the application submissions including the location of silt fences which is identified on application

drawings and the location of any spoil heaps 50m from watercourses. Description of how to remove these fences is given. Turbidity measurement is proposed in addition.

IFI has submitted a positive report on the progress made during the preplanning consultation process and the applicant's undertakings. The Schedule refers to IFI guidance and to agreement on details of stream crossings and other matters. In general, I consider that the applicant proposals meet or exceed these requirements.

Outline CEMP

A revised draft Outline CEMP document dated March 2017 refers. It includes a commitment to establish a liaison group including representatives of IW, KCC and the contractor who shall meet at least quarterly. It commits to the appointment of an Ecological Clerk of Works to monitor the construction works and to provide reports to the competent authorities at frequency agreed by all parties and to submit copies to the laision group.

The Schedule presented to the hearing also incorporates a range of very significant measures as well as the requirements of the planning authority as addressed by conditions.

The outline CEMP is very broad in nature but there are very detailed commitments contained in the body of documents prepared on behalf of Irish Water. The draft document identifies that the final version will contain these mitigation measures. It is appropriate that the applicant agree a Final CEMP, which should be addressed by condition of any decision to grant permission. I also consider that the Schedule of Mitigation is a useful document for the general public and that it should be updated and retained on the files of the planning authority. A condition in this respect is also recommended.

Conclusion

Based on the above I am satisfied that the normal and emergency operations, the maintenance and commissioning phases and the construction mitigation measures will ensure that the potential adverse water quality impacts are avoided in the context of the potential impacts considered above.

9.2.2. Groundwater

I consider that the most valuable sources of information relevant to the understanding of groundwater conditions within the area of the proposed works and affecting the groundwater dependent Dunmore Complex is the PGI Site Investigation Interpretative report (submission 16) and the statement of Mr Warner to the hearing.

The PGI report was presented late on the day of the hearing and was not subject of any detailed discussion. What it does indicate is that the ground conditions of the site of TWTP and the intake and the route of the rising main have been subject to reasonable levels of investigation primarily, it appears to me, aimed at providing for information for engineering design. This report does contain information on groundwater levels including in the SAC at Dunmore Complex, which was identified in the consultant's brief as one of the required areas of investigation.

The information available on groundwater levels is basically a snapshot as was acknowledged by Mr Warner at the hearing and as he volunteered it relates to the time of the year when the water table is lowest. The PGI report refers in a few places to the seasonal and other variations which would be encountered and a few monitoring installations (4 no.) were installed but I am not aware if monitoring is ongoing. The applicant did not volunteer any information at the hearing which would indicate the availability of additional information since the PGI report was prepared in September 2017 (a draft is dated June 2016 and the surveys were undertaken between June and December of 2016 with standpipe wells installed in September 2016). I would also note that the NIS addendum of October 2017 responds only to the revisions to the project undertaken and does not specifically mention the PGI interpretative report or other reports but there is ample evidence to show that the NIS (dated December 2016) would have been prepared with knowledge of the PGI investigations.

I consider that the main points of available relevant information in the realm of hydrogeology are:

- There are no karst features of note recorded within 1km of the works (Mr Warner's submission) and the aquifer is poor. Any excavation in bedrock will be very localised, shallow and within weak weathered and ripable shale bedrock.

- The pipeline is described by Mr Warner as a small development in the context of the adjacent quarries and the existing open drain channel draining the fen. As such he states there will be no adverse impact on groundwater levels adjacent the pipeline.
- While the GSI report records observations of groundwater it also refers on a number of occasions to fluctuations, to the need to refer to the standpipes for water regime and monitoring.
- Monitoring wells are at RC01 near the Nore crossing and SA025 in the centre of Dunmore Complex as well as at RC12 and SA012 near the proposed intake. The conclusion of the report notes that no monitoring has been done. Whether this remains the case, I cannot comment.
- The intake point / pumping station location (SA002) where groundwater was encountered at 2.5m bgl and where works involving 7m deep excavations are proposed is identified as a medium category risk (GC-2) due to the identification of groundwater as a particular geotechnical risk. I note that elsewhere in the applicant's reporting there are details of coffer dam installations.
- The recommendation to undertake trial pump test to establish dewatering requirements may relate to all locations where significant excavations are required (page 38 of report) but in view of the groundwater levels at the intake it would appear to be especially relevant to this location.
- The pipeline crossing of the Nore is a further area of interest and the crossing is described as progressing within the gravel within the groundwater table and 1.6m to 2.0m below the river bed.
- At the crossing through Dunmore Complex the report notes that groundwater was encountered at 1.4m bgl to 5.1m bgl and the groundwater regime is recommended to be further assessed using the installed standpipe well. The rising main lies about 1.6m bgl.
- Localised pumping may be required at the proposed intake works (RC02), along part of the route of the rising main west of the Nore ((TP16 and TP17) and at the Nore crossing (TP 22 and TP23).

I have two reservations regarding the suite of hydrogeological information available namely:

1. In the absence of information relating to trial pump tests, which are recommended in the report of GSI I am concerned about the possible drawdown of water from the SAC in the construction phase and the methods of handling of water at the intake works and elsewhere during construction and this information is not available for the purpose of the Appropriate Assessment. The applicant's commitments refer to settlement ponds and silt control – my concern is the scale and location of features which might be required and the absence of information on which to base mitigation. While there are no known karst features it cannot be concluded based on the available information that there are no such features present. In my opinion there is a requirement for more detailed information on hydrogeology as the basis for considering the effects of the proposed development.
2. The second concern relates to the construction and operational impacts which might arise due to the installation of the rising main at Dunmore. I consider that is not clearly demonstrated that there would be no impacts on groundwater levels. There is insufficient information relating to the existing groundwater fluctuations or proposals to mitigate any potential impacts including avoidance of works in certain circumstances in the construction phase if appropriate. Furthermore, I am not satisfied that it is demonstrated that when installed the pipeline would not alter the flow of water. While the groundwater flow direction would be from south to north I submit that it cannot be concluded based on the available information that there would not be any change in the regime notwithstanding the context and the small scale of the rising main. In addition, the mitigation measure in the form of puddle clay standing to be installed at either end of the pipe would have positive implications for the avoidance of a preferential flow route along the pipeline, but it is not subject of any detailed design or specifications. I note Mr Warner's evidence that the pipeline trench will be filled with material which is quite similar to the subsoil. However, the development does involve installation of new structure (the pipe) which is likely to be within the water

table. Ms Gavin pointed out that 'any change' if it occurred would not be acceptable in terms of protecting the habitat at Dunmore Complex.

I refer later to the presence of quarrying in this area including close to the SAC to the north and south. Notwithstanding the context, my conclusion is that is that in view of the particular circumstances of this case there is not adequate information available as the basis for consideration of impacts of the proposed development. I consider that this information should have been incorporated into the application submissions including as described below into the Natura Impact Statement. While more information was made available in the course of the hearing I do not consider that the applicant has demonstrated that the hydrogeological conditions are sufficiently understood to fully inform the Appropriate Assessment. This is considered further below.

9.2.3. Flood Risk Assessment

The proposed development would be described as Essential Infrastructure and as such under the Flood Guidelines would be considered to be Highly Vulnerable Development. The Flood Risk Assessment provided assesses different components of the scheme in terms of how they perform. The Flood Risk Assessment report notes the location of the proposed intake building (apart from the inlet headwall) above the maximum flood levels (Zone C) and that the proposed works at the WTP will not extend into the Nore floodplain (Zone C).

While part of the outfall from the attenuation pond is in Zone A as is 620m of rising main there is considered to be no alternative. The underground nature of the rising main ensures it will not pose a risk to other lands subject to installation of sections of puddle clay to block preferential flow paths in the trench which might otherwise result in flooding of low lands. The location of the inlet works is in Zone A but there is no alternative and this would be deemed to be water compatible development. In addition, the inlet headwall has been modelled to ensure that it does not exacerbate flooding in the floodplain.

The report comments on the crossing of streams by the access road to the intake building and by the pipeline at the eastern side of the Nore, none of which works will give rise to flooding of adjacent lands. I accept the FRA conclusion that there is no requirement in this case for a Justification Test.

At the Nore crossing the pipeline traverses 560m of floodplain (which is relatively wide but not the widest part of the floodplain) but is selected in part due to the relatively short crossing through the SAC. This matter was raised in the submission of Mr Bain. I accept the applicant's approach.

The construction phase mitigation measures which are required in view of the location of part of the Troyswood site in the flood plain are set out in section 5.7 of the FRA and include:

- Programming and minimising duration of works
- Prevention of storage of machinery and potentially polluting substances in the floodplain
- Particular measures relating to stockpiles and rock storage including prevention of blockages by spoil heaps.

Finally, I refer to the Schedule of Mitigations, which includes a requirement for a Flood Risk Management Plan to be put in place by the contractor to minimise the exposure of excavated soils and deep excavations becoming inundated with water during wet weather conditions. Works at small watercourse crossings will be undertaken when fine weather is forecast.

Having regard to the content of the FRA and the mitigations, I conclude that the development is acceptable in terms of flood risk.

9.3. Appropriate Assessment

9.3.1. Stage 1 – Screening

9.3.2. Identification of sites

I note the convention and the recommendation in national guidance that screening take into account sites within a 15km radius. The only two Natura Sites within that radius are those identified by the applicant. Given the nature of the project I agree that the 15km radius is suitable.

9.3.3. In terms of consultation undertaken there is reference to National Parks and Wildlife Service Deputy Regional Manager and the Conservation Ranger for Kilkenny and to Inland Fisheries Ireland.

9.3.4. In terms of field surveys two site visits are recorded. Both are by the project ecologist. On 9 June 2015 field walkover survey for habitats and species along the route of the proposed pipeline. The second survey of the proposed pipeline route adjacent to the river, the location of the new intake works and the proposed crossing of the river was undertaken also by the project ecologist on 20th June 2016. The survey included searching for signs of otter, and the suitability of the riverbank for nesting Kingfisher was assessed.

Given the nature of the project and the proposed construction methodology the likely zone of impact was determined as outlined in the Natura Impact Statement to be immediately around the construction site and downstream of the site. I consider that this is a reasonable conclusion also.

I agree with the conclusion of the NIS that the two sites which may be affected by the proposed development are:

- River Barrow and the River Nore SAC (Site Code 002162) and
- River Nore SPA (Site Code 004233).

The Natura 2000 sites are shown on figure 4.1. of the NIS.

9.3.5. Conservation objectives

The Conservation Objectives and Qualifying Interests for the selected European sites is set out in Table 3.1 of the NIS.

River Barrow and the River Nore SAC (002162)

The Conservation Objectives are (with one exception) to maintain or restore the favourable conservation condition of the Annex I habitat(s) and Annex II species for which the cSAC has been selected.

The exception is the freshwater pearl mussel *Margaritifera margaritifera.* The NPWS information is that the qualifying interest of this species as a qualifying interest for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. In the interim the NPWS documentation does not list a detailed conservation objective. In response to questions at the hearing the applicant had no more up to date information.

This very large site covers extensive lands upstream and at a considerable distance from the proposed development. It includes coastal habitats 35km downstream of the proposed works. The full list of qualifying interests is identified in the NPWS Conservation Objectives report Version 1.0 19 July 2011 and in the NIS.

River Nore SPA (004233)

The qualifying interest is Kingfisher.

9.3.6. Presence of species within the zone of influence

The NIS as part of the Screening report considered the potential presence of species within the zone of influence of the proposed development as well as the potential connectivity. On that basis it was considered that a number of qualifying interests can be screened out from further consideration. I agree with the conclusions drawn in the NIS in this respect. The relevant qualifying interests which may be excluded from consideration and the reasons for screening them out for further consideration are as follows.

- Twaite shad – it was further confirmed at the oral hearing that as stated in the written submissions Twaite Shad would not run sufficiently upstream so as to have a potential presence within the zone of influence of the proposed development.
- Estuaries – coastal habitat and tidal influence is over 35km downstream.
- Mudflats and sand flats not covered by seawater at low tide- coastal habitat.
- Salicornia and other annuals colonizing mud and sand – coastal habitat.
- Atlantic salt meadows – coastal habitat.
- Mediterranean salt meadows – coastal habitat.
- Killarney fern – as clarified at the oral hearing the habitat requirement is for particularly humid conditions – this precludes the presence of the species within the zone of influence.
- Nore freshwater pearl mussel – restricted to area 15km upstream.
- European dry heaths – upland habitat.

- Petrifying springs with tufa formation – underlying geology is deep gravels alluvium so no potential for this habitat type.
- Old oak sessile woods – not present in footprint of works.
- Alluvial forests – potential habitat is outside zone of influence downstream.

Thus the qualifying interests for the River Barrow and River Nore SAC which are relevant for Stage 2 are:

- Desmoulin's Whorl Snail
- Freshwater Pearl Mussel
- White-clawed Crayfish
- Sea Lamprey
- Brook Lamprey
- River Lamprey
- Atlantic Salmon
- Otter
- Water courses of plain to montane levels with *Ranunculion fluitantis and Callitricho-Batrachion* vegetation
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels.

9.3.7. Likely significant effects of the proposed development

As noted in the NIS and reiterated at the hearing the site investigation works undertaken were subject to AA screening. The project if permitted has the potential for significant effects which are considered under the headings of direct impacts, construction phase and operational impacts.

Direct impacts

The development involves works at the existing and proposed intakes at the river bank which is within the European sites and the rising main traverses the SAC. The development also impinges directly in the construction phase on a larger part of the

SAC close to the proposed intake and at the location of part of the attenuation pond. The designated SAC is clearly marked on a drawing, which also shows the proposed development. These works could result in significant effects due to habitat loss and loss of places used by qualifying interests.

Construction and commissioning

In the construction phase there is potential for significant effects arising from the development which might affect the Conservation Objectives of the European sites. This arises from:

- Noise resulting in potential for displacement and disturbance to qualifying interests
- Potential water quality impacts including due to works at the existing and proposed intake
- Potential water quality impacts related to drilling under the Nore, minor water crossings and to works in the vicinity of watercourses for the purpose of installing the rising main
- Potential for significant groundwater abstraction, which might impact the SAC
- General spillages and commissioning of rising main giving rise to water quality impacts which could affect qualifying interests
- Spread of invasive species.

Operation

In the operational phase there is potential for significant impacts related to:

- Noise
- Hydrogeological impacts due to the presence of the impermeable pipeline in the SAC
- Spillage from or failure of chemical storage tanks
- Overflows from process tanks and from clear water tank and related attenuation pond
- General spillages and wastewater drainage impacts.

9.3.8. Conclusion of Stage 1

It is considered that, in the absence of mitigation, there remains a possibility of likely significant effects on the European Sites in view of the sites' Conservation Objectives and a Stage 2 Appropriate Assessment is, therefore, required.

9.3.9. **Appropriate Assessment (Stage 2)**

9.3.10. The qualifying interests which are considered relevant for the purposes of Stage 2 Appropriate Assessment are set out below.

9.3.11. For the River Barrow and River Nore SAC

- Desmoulin's Whorl Snail
- Freshwater Pearl Mussel
- White-clawed Crayfish
- Sea Lamprey
- Brook Lamprey
- River Lamprey
- Atlantic Salmon
- Otter
- Water courses of plain to montane levels with *Ranunculion fluitantis and Callitricho-Batrachion* vegetation
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels

And for the River Nore SPA:

- Kingfisher.

9.3.12. Likely significant effects of the proposed development

The NIS and the NIS addendum reports provide detailed descriptions of the nature of the proposed development (as modified) and the likely significant effects.

The proposed development is as described in the earlier section of my report. The NIS in section 5 sets out the specific aspects of the works, which are deemed to be relevant to AA and in general I consider this is comprehensive. The detail therein is

substantial and I do not propose to replicate it but I have considered it carefully together with other aspects of the application including the relevant mitigation.

I refer below to qualifying interests of the European sites and I identify the potential for significant effects on these qualifying interests.

Desmoulin's Whorl Snail

The European site includes an area identified as Dunmore Complex, which is mainly a rich fen and flush, ponds, wet willow woodlands habitat and which is described as comprising suitable habitat for Desmoulin's Whorl Snail. There are two known sites within the extensive SAC where the species is present. Dunmore Complex is not one of these sites. However, on a precautionary basis and having regard to the presence of suitable habitat the species was assumed for the purposes of the NIS to be present within the immediate area of the pipeline route.

There is no habitat loss relevant to Desmoulin's Whorl Snail associated with the pipeline, which passes through an area of improved grassland land positioned in the middle of the wetlands and is described as being either raised natural ground or imported topsoil on agricultural grassland. On site I noted some remnants of apparent quarrying, which had taken place near the pipeline route. I also noted that there is a significant drop between the level of the pipeline route and the lands to the north, but that the lands to the south are more or less level with the ground through which the pipe would pass. The southernmost of three ponds is at a lower ground level.

The potential for significant effects on Desmoulin's Whorl Snail would arise from changes in groundwater levels to which the species is extremely sensitive. The evidence of Ms Gavin is that the species would be affected by any change in the hydrogeological conditions in the SAC. On questioning she stood by and reiterated the use of the word 'any'.

In combination effects would relate to the quarrying works which have taken place to the north of Dunmore Complex.

Regarding the availability of information, the Board's decision is required to be based on best scientific knowledge in the field. The applicant was requested at the oral hearing to comment on the absence of a specific species survey by a recognised expert. In response Ms Gavin noted that there are very few such experts and that

the assessment undertaken is based on the presumption that the species is present. In response to further questions Ms Gavin responded that a survey if undertaken would give a high degree of certainty about the presence (or absence) of the species.

The NIS therefore does not rely on the best available scientific knowledge but in its absence it does take a very precautionary approach to the proposed development. I consider that it is reasonable to rely on the 'worst case' scenario, namely on the assumption that the Desmoulin's Whorl Snail is present and could be adversely impacted by 'any' change in groundwater feeding the fen. That approach can be accepted provided the detail of the hydrogeological impact and the mitigation measures are thoroughly addressed. In the absence of complete clarity regarding the hydrogeological characteristics I consider that a survey for the Desmoulin's Whorl Snail would be an appropriate starting point to gathering necessary information.

Freshwater Pearl Mussel

If present Freshwater Pearl Mussel would be highly susceptible to siltation and other water quality impacts including hydrocarbon spillage or frac-out. I consider that the measures presented by the applicant to protect surface water quality impacts including in the event of a flood are comprehensive. The Nore downstream of the site has not been surveyed for the purposes of this application and the NPWS information is that the lower reaches of the Nore have not been systematically surveyed. There are records for the species in the area but the current status is unknown. A precautionary assessment is therefore undertaken and the species is assumed to be present within the zone of influence.

The potential for in combination effects is related to the existing discharges including agricultural run-off and cattle poaching at riverside.

White-clawed Crayfish

The surveys undertaken indicate that the species is present throughout the river and the applicant's surveys indicate that they were observed in the Nore in the immediate area of the works. Potential for impacts includes direct impacts as a result of works at the new intake.

The potential for in combination effects is related to the existing discharges including agricultural run-off and cattle poaching at riverside.

Sea Lamprey, Brook Lamprey and River Lamprey

Lamprey species have been recorded upstream and downstream and there is suitable habitat including suitable lamprey larval habitat at the location of the proposed new intake. Streams have the potential to support brook lamprey larvae. There is potential for direct impact on habitat due to instream works and for water quality impacts due to sediment runoff, hydrocarbon spillage or frac-out.

The potential for in combination effects is related to the existing discharges including agricultural run-off and cattle poaching at riverside.

Atlantic Salmon

The Nore is a designated salmon river and there is potential for the species to occur throughout the extent of the river. There is potential for impact due to instream works and for water quality impacts due to sediment runoff, hydrocarbon spillage or frac-out. Potential for impacts includes direct impacts as a result of works at the new intake. The question was raised at the hearing in relation to the changes to flow at Troyswood weir and whether that would impact fish passage.

The potential for in combination effects is related to the existing discharges including agricultural run-off and cattle poaching at riverside.

Otter

Otter are widespread and there is potential suitable habitat throughout the works area but no signs observed during surveys. Foraging along the watercourse is assumed.

There is potential for impact due to instream works and for water quality impacts due to sediment runoff, hydrocarbon spillage or frac-out, including by negatively impacting on their prey. The question was raised at the hearing in relation to the changes to flow at Troyswood weir and whether that would impact fish passage.

The potential for in combination effects is related to the existing discharges including agricultural run-off and cattle poaching at riverside.

Water courses of plain to montane levels with Ranunculion fluitantis and Callitricho-Batrachion vegetation

Floating river vegetation was identified in small patches during site surveys at a location downstream of the proposed intake and in a small patch which was described as being of moderate ecological value and unlikely to be of Annex I quality.

Potential for direct loss during instream works. Water quality changes could impact due to sediment runoff, hydrocarbon spillage or frac-out. Increased siltation could have negative impacts.

The potential for in combination effects is related to the existing discharges including agricultural run-off and cattle poaching at riverside.

Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels

Not recorded during surveys but there is potential for this habitat to be present downstream.

Potential for direct loss during instream works. Water quality changes could impact due to sediment runoff, hydrocarbon spillage or frac-out. Increased siltation could have negative impacts.

Kingfisher

There is anecdotal evidence of Kingfisher using the river at this location. It is considered to be a likely kingfisher territory. No potential for suitable habitat for nesting along river banks. Potential impacts relate to the nesting banks and also to sediment run-off and impact on prey species during construction. There was some dispute at the hearing over the presence of kingfisher nests, which residents stated were present and for which the ecologist stated there is no suitable habitat.

Potential for impacts includes direct impacts as a disturbance in the construction period and long-term as a result of the possible future use of the right of way along the Nore to provide a riverside walk. Potential impacts due to effect on prey.

9.3.13. **Mitigation and assessment**

9.3.14. Demoulin's Whorl Snail

The primary mitigation measure presented by the applicant is set out on page 48 of the NIS and subject to its implementation the conclusion of the applicant's submission is that there will be no construction or operational stage impacts on ground water levels in the wetland habitat and therefore no effect on Desmoulin's Whorl Snail, if present. The mitigation measure relates to installation of puddle clay stanking, which I accept is likely in principle to be sufficient to prevent creation of preferential flow paths along the pipeline, which could change the groundwater regime. As an important mitigation measures relevant to a qualifying interest however it is appropriate that its design be further clarified prior to consent.

The application submissions do not contain extensive information on hydrological conditions relevant to the sustaining this qualifying interest. However, a certain amount of supplementary information was presented to the hearing. In particular, the applicant submitted a ground investigation report which *inter alia* established groundwater levels albeit for a single occasion, which Mr Warner acknowledged was for the driest time of the year and could reasonably be described as a 'snapshot'.

In discussion Mr Warner indicated that the groundwater flow direction is considered to be from south (where there are is higher ground and two ponds) to north where there is the most extensive area of the fen habitat. The northern part of the Dunmore Complex drains to the Nore in addition by way of the small stream beside which the pipeline would run.

The pipeline will be located within the pathway of the water flow to the north. It is the potential consequences of this installation on the main groundwater flow direction that has not been fully considered in my opinion.

I refer to the historical and potentially ongoing changes in the area including the following:

- The presence of a quarry to the north
- The historic infilling of the site at the location of the pipeline and
- The evidence from aerial photographs, which show possible further historical abstraction in the southern part of the Dunmore Complex lands.

Taking a precautionary approach to the presence of Desmoulin's Whorl Snail, the applicant has not drawn any inferences or conclusions from the site context, except in relation to potential in combination effects.

I have previously concluded that the information on hydrogeological impacts is insufficient in the context of the potential presence of the particular Annex II species. In my opinion it is not possible to conclude that the proposed development by itself or in combination with other plans or projects in the vicinity would not adversely affect the integrity of European Sites in view of the sites' conservation objectives.

9.3.15. Direct effects

There are works within the SAC but the parts of the Sites affected are not generally relevant to protected habitats and species. The launch and receptor pits and the location of the attenuation pond and pumping station building although within the designated SAC are located in improved agricultural grassland.

There is very limited potential for direct effects but some potential including in terms of disturbance and removal of habitat for protected fish. A loss of habitat for Lamprey larvae is acknowledged in the NIS. I agree that in the context of the scale of the river this is not significant. The extensive mitigation measures including in relation to watercourse crossings and fisheries protection are particularly relevant.

In overall terms I consider that there are sufficient mitigation measures proposed to prevent direct loss of relevant habitat and species.

On the specific matter of fish passage particularly salmon and whether passage across the weir will be possible, I note that the hydrology assessment has indicated very small changes to water level and that the IFI has not raised this concern. I consider that the matter is adequately addressed and I accept the conclusions.

Capture and translocation of white-clawed crayfish will be undertaken. Likewise, follow-on surveys for otter holts are proposed.

I accept the ecologists evidence in relation to the absence of kingfisher nests in locations where there is potential for direct effects.

I am satisfied that there are no likely significant residual direct effects which would warrant additional mitigation.

9.3.16. Indirect effects

Potential impacts on Kingfisher through noise will be mitigated by avoidance of works in the breeding season.

Where holts are identified there will be (at minimum) adequate separation and screening to prevent noise and visual disturbance.

Method statements will be reviewed by IFI to ensure no impact on fisheries.

I am satisfied that there are no likely significant residual indirect effects which would warrant additional mitigation.

9.3.17. Water quality related mitigation

Prevention of adverse changes to water quality in the small streams and in the Nore is a necessary measure to ensure no indirect impacts after mitigation on Annex II species.

Regarding the river Nore crossing, the crossing of small water courses and the potential for pollution in the construction, commissioning and operational phases generally including in the event of flooding I am satisfied that the NIS and other documents in general adequately describe the main mitigation measures, and that these mitigation measures are sufficient. However, there is lack of evidence relating to specified matters detailed in the surface water / groundwater section of this report.

In terms of plans and projects which were considered for in combination effects these include the River Dinin intake works and the Inistioge water supply scheme.

9.3.18. Conclusion

I would emphasise to the Board that the planning authority considered that Appropriate Assessment could be favourably completed.

I also note that the matters raised relating to groundwater abstraction (which might affect water quality in the Nore) and potential changes to the water table (which might affect Demoulin's Whorl Snail, if present) were not of concern to prescribed bodies. NPWS did not take up an invitation to attend the hearing and has not indicated any objection to the proposed development in respect of the issues I have raised.

I refer also to the quarrying activity in the area.

Nevertheless, it remains my opinion that there is inadequate information available having regard to the legal requirement to base a decision on the best available scientific evidence and to draw clear and unambiguous conclusions.

In my opinion it is not possible to conclude that the proposed development by itself or in combination with other plans or projects in the vicinity would not adversely affect the integrity of European Sites in view of the sites' conservation objectives.

I consider that there is a potential satisfactory outcome if further information is presented and for this reason I have not recommended that permission should be refused.

9.4. **Ecology**

I refer briefly to the impact of the development on certain species and habitats which are not addressed above under Appropriate Assessment and to the mitigation measures set out. This matter is covered in the Ecological Impact Assessment submitted.

Badgers

The application submissions include mitigation measures to an identified sett.

Trees and woodlands

The rising main passes through a small section of scrub at a location to the west of the river and passes close to mixed broadleaved woodland near Bleach Road and reach fen and flush and willow wood land to the west of the N77. No removal of trees will be a requirement to be specified in a method statement.

Bats

While it is not anticipated that there will be removal of mature trees, if that is required, measures to protect bats including appropriate survey, derogation licence and mitigation relating to tree felling will be put in place.

Birds

The primary mitigations presented relate to the timing of works and the removal of woodland and hedges.

I consider that there are no requirements for additional mitigation measures and that the development is acceptable in terms of general ecological impacts.

9.5. Noise

The impact of the proposed development on residential dwellinghouses is the main concern identified in the third party appeals submitted by the owners of the two houses immediately adjacent the site of the new intake works and pumping stations. This matter was explored in detail by the planning authority in its consideration of the application and a detailed submission was presented to the hearing by Mr Brosnan who was responsible also for the documents presented to the planning authority.

I consider that the potential for adverse impacts on the immediately adjacent houses and on the houses at the western side of the regional roads is a material consideration in this case.

9.5.1. Construction phase

The duration of construction is estimated to be up to 18 months, with the majority of works undertaken in a 12-month period. The noise generating activities will take place over an extensive area including the long and narrow site at TWTP. The applicant for reasons relating to the extensive site, the shielding effect of buildings once they are in place, the variations in the construction activities, notes the difficulties in presenting an overall noise output level from the site. An assessment of specific operations and areas is therefore undertaken. The impact assessment includes the setting of bespoke limits for the construction period. These include a 65dB $L_{Aeq, 1hour}$ limit as measured 4m from facades for daytime hours and a 45dB $L_{Aeq, 1hour}$ limit measured 4m from facades for night-time.

The nearest noise sensitive receptors NSL1-16 were subject of individual modelling and the results presented in Table 5 of the RFI submission indicates that the construction noise levels would not exceed 65dB and in the case of many of the residential properties would be significantly less than 65dB in general. However, a few individual houses would experience short-term exceedances of the 65dB limit depending on the method of piling used. For example, the installation of sheet piling at construction of the intake (which is likely to take under two weeks) would result in

predicted noise levels of 69dB, without mitigation at 4m from an appellant's house. This is the revised evidence which was presented at the hearing, which is based on use of a vibratory piling operation which is relatively quiet. The information presented to the planning authority took a worst case approach and made assessments for drop hammer methods.

In order to meet the limit of 65dB set the Schedule summarises the proposed mitigation measure in the form of an acoustic screen which would be a requirement of the overall mitigation measures and would reduce the impact at the two immediately adjacent houses to 62dB. Roadway construction in the vicinity of the McGlynn house (NSL4) would be potentially significant and mitigated by the use of acoustic screens at source. However, the combined effect of roadway construction and piling were they to happen together would result in very high levels of noise (approaching 80dB) at this house and the commitment given relating to agreement on timing of such works is relevant in this respect. A further potential noise source of significance would be the use of consaw (resulting in short bursts of noise) in the vicinity of the chemical building and clear water holding tank.

I have considered the applicant's assessment together with the conditions of the planning authority and also reflected on the contents of the PGI Site Investigations Interpretative report. I note that the use of rotary piling method is recommended for consideration by PGI and is a condition of the decision of the planning authority. The Schedule presented to the hearing provides for written agreement with the planning authority on the specific piling methodology and also commits to a 65dB limit. The short-term nature of use of consaw and the mitigation measures proposed are noted. I note the additional mitigation measures relating to consultation, use of silent dewatering pumps, particular measures relating to gates and so on. In particular, I refer to the carrying out of noise surveys in the construction and commissioning phases and (where there are high level noises experienced) the installation of monitoring at individual houses. In summary, in terms of the applicant's proposals I consider that they are comprehensive.

The acoustic consultant's evidence to the hearing referred to the especially onerous nature of the noise limits to be applied in this case. He noted that the limits are up to 10dB lower than the standard requirements of the regulatory authorities and that in his 17 years as an acoustic consultant these are the strictest limits he has

recommended. I agree that the approach of Irish Water to this case has exceeded normal requirements. The assessment appears to have from the outset taken into account the rural area and worked from an agreed objective that noise impacts should be entirely minimised. I consider that this is achieved and I am satisfied that the construction phase noise impacts would be acceptable and protective of daytime and night-time amenities for existing residents.

I consider that the proposed development will impose strict limits for the construction phase noise impacts. This will largely be relevant to the lands in the vicinity of TWTP for which houses individual assessments are undertaken. I consider that the mitigation measures presented are appropriate, are sufficient to protect residential amenity and should be re-iterated by the Board.

9.5.2. **Operational noise**

The noise sources of potential concern in the operational period relate primarily to the noise from the new intake and the pumping station, which will be located close to the appellants' houses. The potential source of ongoing noise would be the pumps in the intake hall. There is a similar potential source of noise at the chemical building, which is separated from the nearest houses by the regional road. The noise impact assessment presented to the planning authority as further information describes other potential sources of noise, mainly at the TWTP and concludes that there is no requirement for detailed further assessment. I agree with this conclusion.

The noise emanating from the intake / pumping station would be mitigated by the enclosure of the pumps in a building which would be of concrete construction (walls and roof) although the materials are stated to be open to the contractor's design. Further, the positioning of the roller shutter at the southern façade is protective of the acoustic environment in the vicinity of the residential properties. The building will be set into excavated grounds. There would be infrequent visits to the site by workers. The noise emanating from the Chemical Building would be similar but would impact houses which are normally exposed to more traffic noise.

Measures presented at the oral hearing provide for further mitigation. In particular, the proposed pumps which are enclosed in buildings would be further housed in an individual noise enclosure within the building. A further measure is the clarification

that it is not proposed to install an electrical transformer into the intake building, which had been identified by an appellant as a potential noise nuisance.

As with the construction phase noise limits the operational limits are significantly below the standard regulations. For instance, in lieu of adopting the EPA 45dB night-time criterion the 38dB façade level criteria refers. Based on my inspections of the TWTP that I found no evidence that the existing acoustic environment is impaired by any element of the existing water treatment facility. I conclude that the proposed development will similarly be acceptable and will not interfere with the residential amenities of the area. In this respect I note that there are clear requirements for noise monitoring and a commitment to low level noise impacts.

I note that the appellants have raised specific concerns on a number of technical matters to which the applicant has provided a detailed response. My comments are as follows:

- The requirement to specify the exact type of pumps is neither necessary nor reasonable – the noise limits set in the Schedule are specific, strict and will have to be adhered to.
- The operational noise assessment is based on construction of a concrete building with concrete roof – the Schedule refers to use of construction materials 'to limit noise levels where required'. In relation to the intake building I consider that this is vague and my recommendation is that the structure be of concrete as per the noise assessment. Alternatively, the Board may consider the recommendation on page 28 of the submission to the hearing relating to reassessment of noise impacts if there is a deviation from the original design specifications. Either approach is acceptable, but reliance on the Schedule is in my opinion insufficient in this respect and a specific condition is required. The recommendations on this page of the report are otherwise addressed in the Schedule.
- Issues relating to tonality or impulsive noises are addressed by the applicant including in the Schedule.
- The undertaking of the construction noise assessment in accordance with BS 5228 is appropriate. Again, I reiterate that a strict noise limit has been adopted and a suite of clear mitigation measures presented.

- I consider that the applicant has demonstrated that there will be adherence to the relatively strict noise limits adopted for the construction period and set out measures in the Schedule where specific phases of works will exceed that limit.
- I consider that the applicant responded at the hearing to the specific matters raised in the McGlynn appeal

In my opinion the applicant has undertaken all reasonable measures to minimise impacts on houses in the vicinity. Operational noise monitoring as required under the decision of the planning authority is not specifically listed in the Schedule and I consider that this condition should be reiterated in the interest of clarity.

9.6. Landscape, visual and residential amenity

9.6.1. Landscape and visual amenity

The proposed development insofar as it has significant consequences for landscape and visual amenities involves the expansion of the existing complex of structures at Troyswood and a marked increase in the area of site covered by infrastructure, specifically by the new elements introduced to the north of the existing plant, including the Clear Water Tank, the Chemical Building and High Lift Pumping Station as well as the smaller building and works at the new intake and the new road access and attenuation pond, also in that general area. The latter infrastructure will be most visible from the appellants' houses, gardens and patios, while the Clear Water Tanks and Chemical Building / Pumping Station will constitute the most significant elements which will be visible to road users and to some of the residents to the west of the regional road and from the McGlynn's house to the north. The temporary impacts associated with the proposed pipeline are relatively minor in nature and there is no significant landscape or visual residual effect once the lands are reinstated.

The Board is referred to the revised photomontages which show the reduced scale of development presented to the planning authority in response to third party concerns relating to scale of buildings, potential glare and other details. The resulting development is more overtly industrial in nature in some respects. Nevertheless, I consider that the amendments, notably the omission of a large

enclosing building allowing display of the tanks constitutes an improvement as more of the background of the river valley is visible.

I consider that the proposed development would result in:

- Significant landscape and visual amenity alterations in the construction period, which would affect the area but which would be concentrated at Troyswood. The zone of influence is not large as the proposed development is located in the river valley and there are no long distant views to the site.
- Lasting localised impacts which would affect houses opposite the plant in particular as represented in viewpoints 1 and 2. The character of the existing facility is however established and would not be greatly altered in my opinion despite the large extensions proposed. The existing unimpeded view from one house to the Nore Valley will be interrupted by the Chemical Building and from another by the Clear Water Tank. These houses are separated from the proposed structures by a distance of 50m / 65m and while the building and tank are at a lower ground level than the regional road they will nevertheless result in a significant visual impact, which I would describe as adverse in nature and obviously permanent. The road level is around 61.5mOD and the roof level of the chemical building for example is 67.3mOD above a ground level of 58.35mOD.
- Lasting localised impacts due to changes at the northern part of the TWTP site where a new building would be introduced, a large attenuation pond developed and various ancillary items including light standards and fencing would be in place and visible in the long-term in particular from the McGlynn's garden and from a balcony at the McGarry property.
- When considered from a wider context and by occasional users such as motorists there would be limited change in landscape character at the existing water treatment plant at Troyswood, although the increase in scale would be apparent. Motorists would not be deemed to be sensitive receptors.

Visual impact is mitigation by design and landscaping proposals. There would appear to me to be an adequate tree planting proposed, which will soften the appearance of the new structures as viewed from the houses to the west and promote landscape integration.

The landscaping plan as revised is not welcomed by the McGlynns who consider that the trees proposed at the access road would impede their view. Proposed Planting Area A refers. I consider that there would be no adverse consequences arising from the omission of this zone. The commitment in the Schedule indicates flexibility to address third party concerns, which appears to refer to the appellants. A commitment given at the hearing also refers to the applicant undertaking annual maintenance of the boundary hedgerow at Mc Glynn's house.

I recommend that any decision to grant permissions should require agreement with the planning authority of a landscape plan including the following:

- Omit the trees Planting Zone A and agree with the planning authority a programme of maintenance of hedgerows at Zones A, L and K.

Finally, I note the listed view from Bleach Road to the Nore, which I consider would not be significantly altered by the proposed development. Bleach Road is a local road and not heavily trafficked. The riverside character, which is dominated by mature trees would not be altered and the proposed buildings are not likely to be not highly visible.

I conclude that the development is acceptable in terms of the landscape and visual impacts.

9.6.2. Residential amenity

Following inspection of the site and surrounding area in particular in the vicinity of the TWTP and having regard to the nature, scale, detailed design and mitigation measures associated with the proposed development, I consider that the main impacts on residential amenity would comprise short-term changes in visual amenity as well as the general nuisance and disturbance which is an inevitable consequence of any major construction project.

I am satisfied that the noise mitigation measures presented constitute a very satisfactory approach to minimising noise impact in the construction phase. I consider that all possible measures, which would reasonably be put in place have been adopted.

Regarding potential impacts on air quality I consider that the CEMP when finalised will provide the basis for ensuring that there is no significant effect on residents.

I have referred under the route selection section of this report to the consideration given to avoidance of traffic congestion. I consider that the proposed development would not result in undue traffic congestion or any traffic safety issues which might have consequences for the amenities residents in the area.

Regarding the operational phase of the development I consider that there will be a change in the character of the area in the immediate vicinity of the appellants' houses and that the introduction of new buildings in a hitherto agricultural riverside area will be a minor negative impact on views from a small number of houses and gardens. The omission of lighting from the new access road to the new intake area (which shall be switched off except during occasional visits) is welcomed and the landscaping detail is to be amended to omit proposed trees which would have enclosed a view.

I do not consider that any further mitigation measures can reasonably be achieved or are warranted. To the extent that the disturbances associated with a large construction can be mitigated, I consider that this is achieved. I conclude that the development is acceptable in terms of residential amenity impacts for the duration of construction and in the long-term in addition.

9.7. **Roads, Traffic and Related Matters**

Regarding the issues of roads and traffic, the proposed development would be likely to primarily affect the construction phase but other aspects of the scheme are also considered below.

The Troyswood site is presently served by two site entrances. The applicant's proposals as revised by the further information includes a replacement entrance to the north of the existing. I am satisfied that this new entrance will serve to improve sightlines, while also facilitating easy access to the internal service road serving the new intake point /pumping station. I consider that the nature and scale of the proposed access road is suitable for the purpose to be served. On completion of the development, the southern entrance is to be used only for emergency access.

It is clarified in the Schedule of Mitigations that the construction phase traffic will use the new northern entrance, that it will be put in place in advance of all other works at TWTP and be used solely for construction purposes. Operational requirements at

TWTP for the construction period will continue to be served by the existing entrances. In addition, the applicant's proposals include measures which will minimise hazard and disruption of traffic flow along the busy R693 including use of 'flagmen' and provision of ample on-site parking and set down areas. The proposed entrance arrangements for the construction and operational phases at TWTP are acceptable in my opinion.

Potential for impact on traffic along the N77 is minimised by use of no-dig technology for the crossing with the rising main. The construction phase impact on local roads and their users is more significant, but would not be described as extensive. Under the revised proposals for the rising main there would will be a requirement for a 900mm wide trench, which would impact Pike Road, Dunmorepark Road (for a length of 145m) and Radestown Lane by a single transverse crossing. On completion the applicant has agreed to the full-width re-instatement of the surface at Pike Road and Dunmorepark Road. The planning authority has indicated that a bond may be required as part of the road opening licence.

Apart from the road reinstatement there is the matter of road closure of Pike Road for part of the construction period. An alternative route is available and this would be subject of a traffic management plan to be agreed with the planning authority. I consider that the mitigation measures, which include a Public Information Programme will assist in minimising impacts on local residents and businesses. As with any major project there would be some level of inconvenience but in this case the number of road users affected would be relatively low and the duration of closure for works associated with the rising main relatively short.

Finally, in order to meet the development plan objective to provide a riverside walkway the applicant has submitted a wayleave agreement and maps to ensure that an appropriate walkway may be developed to the west of the Nore. Access gates to facilitate access by Irish water to the specific parts of the infrastructure and these are shown on drawings PA_008A / PA_009A. The planning authority reports indicate that the Parks Department has no objections.

The appellant's claim to have a right to access the river from a gate at the north of the McGlynn property is noted and is considered a private matter between the parties.

I note the conditions recommended by the Road Section report, which I consider are generally appropriate but unnecessary as they are covered by separate codes or by the Schedule.

In conclusion I consider that the development is acceptable in terms of roads and traffic impacts.

9.8. **Archaeology**

Based on the information presented by the applicant and having regard to the comments of DAAHRG the likelihood of significant archaeological impacts is limited. However, the proposed development which involves works over an extensive area and close to a major river raises the possibility of uncovering previously unknown archaeological features.

Taking the following into account I consider that the archaeological impacts arising from the proposed development appear to be acceptable and that reasonable investigations have been undertaken and assessed:

- The nature of the river Nore crossing minimises potential impacts in the riverside environment and negates the need for underwater survey.
- The riverbank at the new intake will require archaeological monitoring but it is a short length.
- The proposed development avoids recorded archaeological sites.
- The rising main was re-aligned to totally avoid an identified feature, which may be of an archaeological provenance but may also be a topographical feature.
- Detailed mitigation is presented in the Schedule – it incorporates the measures raised by DAAHRRG.

I recommend that the Board refer it its decision to the Schedule of Mitigations and that there is no requirement for a specific archaeological condition.

9.9. **First Party Appeal**

The first party appeal raises issues which concern the principle of the calculation, which is based on the development being 'Non Residential'. The Scheme is stated to have not been applied as it was intended and the condition should be omitted. The appeal statement was supplemented at the oral hearing by Ms James' presentation which referred to the Draft Water Services Guidelines for Planning Authorities and section 7.1.3 of that document, which advises that in the making of Schemes consideration should be given to including a special provision in respect of water sector developments to limit the extent of the contribution. It notes that contributions could be applied based on the area of administrative buildings and excluding any site or plant areas, which can be very extensive.

The planning authority at the oral hearing referred to the basis for the calculation of the amount of the Scheme. The planning authority indicated that the case being made by Irish Water is appreciated. However, pending a review of the Scheme the only option available was to attach a condition requiring payment under the current Scheme.

I note that there is no dispute over the amount payable, which is based on the reduced floor area of the development following the further information submissions and on Classes 4 and 12 of the DCS. The calculations are set out in a 'Calculation Sheet' on file. Class 4 refers to 'Non Residential Development including open storage yards' and Class 12 to 'the provision on, in, over or under land of … tanks or other structures … for storage purposes'.

I have examined the other classes in the DSC and consider that none of the other classes are relevant. Consideration of all or part of the development within Class 17' development not coming within any of the foregoing classes would be possible in the alternative to Classes 4 and 12 but would in fact not reduce the amount payable.

The legislative provisions allow for exemptions to the DCS to be incorporated within the Scheme. There are a range of development types which will be considered exempted and bodies are listed as being exempted, including Kilkenny County Council. However, there is no such exemption in the Scheme which would be applicable to Irish Water. I am satisfied that the DSC should be applied in this case,

regardless of the point made in the appeal relating to the levying of a public body by another.

In its decision making on the first party appeal the Board is restricted to consideration of the proper application of the Scheme. I consider that the calculations presented by the planning authority are correct and that in the absence of any exemption, the Board should conclude that the Scheme has been properly applied.

I note that Mr Fitzsimons submissions to the oral hearing addresses the Water Services Acts 2007 and 2013. He notes the functions under the Water Services Acts, which are conferred on 'water services authorities' were transferred to Irish Water on 1 January 2014. On the basis that the definition of a 'water services authority' in the Water Services Act provides that where the context permits, any references to a sanitary authority or local authority in any legislation, insofar as it relates to functions of that authority in relation to water services, shall be regarded as a reference to a water services authority. In that regard Irish Water is responsible for the provision and development of water services. Further, he states, after 1 Jan 2104 the Board when granting permission in respect of development proposed by Irish Water should no longer include a development contribution in respect of water services infrastructure in any development contribution condition imposed.

I have set out the argument presented in detail for the consideration of the Board. However, I note that the arguments presented would be contrary to the Board's normal interpretation and practice, which has been to accept the principle of application of a DCS to development proposed by Irish Water. Further the argument presented, if upheld, would mean that there is no requirement for the guidance suggested under the Draft Water Services Guidelines. My conclusion is that the legal argument presented should not be accepted.

I conclude that the planning authority has correctly applied the Scheme. The amount which would be payable is therefore €61,705. I recommend that the condition attached by the planning authority be retained. In the interest of clarity, the amount of €61,705 should be specified.

9.10. **Environmental Impact Assessment**

I refer now to whether or not there is a requirement for EIA. The matter is not subject of the grounds of the appeal but has been raised in a number of first party submissions and considered by the planning authority in its reports. First party submissions include an EIA Screening.

The application to the planning authority was made before the date of 16th May 2017 and as such the relevant Directive is the 2011 Directive. Annex I of the EIA Directive lists projects for which EIA is mandatory and Annex 2 lists projects which may require an EIA subject to thresholds imposed by Member States or which fall to be determined on a case by case basis. As transposed into national legislation Schedule 5 of the Regulations is relevant.

Part 1 of Schedule 5 of the Planning and Development Regulations 2001 as amended lists project which of their nature would be likely to have significant environmental impacts and for which an EIS shall be submitted. This reflects the Annex I requirements.

Part 2 of Schedule 5 identifies those categories of development for which an EIA is required. There is also a requirement that developments of those types which are below the thresholds set in Part 2 may trigger a requirement for EIA.

The proposed development does not fall within any category of development in Schedule 5 to the Planning and Development Regulations. I consider that the Board should therefore determine that there is no requirement for EIA in this case.

9.11. **Legal and procedural matters**

Procedures at hearing

Mr Colum Bain objected to the consideration of the CPO prior to the making of a decision on the planning appeal and in that context called for the hearing on the CPO case to be stopped pending determination of the appeal related to the project. The basis for his argument was that without the detail of the submission being available he is not in a position to advise his clients and in this regard he emphasised that he was not straying into any matters which would properly be considered under arbitration proceedings.

Mr Fitzsimons in response indicated that the Technical submissions from the Irish Water team also referred to detailed aspects of the scheme, which I will further reference in the report on the concurrent application for CPO.

I consider that the Board's practice of holding concurrent appeals is established, well founded and appropriate. Indeed, I consider that the approach pursued ensures that the Board is firmly positioned to consider the merits of the CPO, including the need for the lands and the suitability of the lands and matters related to compliance with policy provisions. In my opinion there are no circumstances arising in this case which would warrant a divergence from the established practice of joint consideration of these two cases.

I am satisfied that the documents presented at the oral hearing were in the nature of supplementary submissions and would not warrant notification of the public.

10.0 Conclusions and Recommendation

In principle I consider that the development in terms of its nature, scale, location and its design would not detract from the visual or residential amenities of the area, would be acceptable in terms of traffic, cultural heritage and other matters. The proposed development would provide for a necessary upgrade to the Kilkenny and environs water supply and remedy the situation whereby half of the existing supply is from a source which is on the Remedial Action List of the Environmental Protection Agency.

The proposed development in short has much to recommend it and a grant of permission may be possible in the future. It is dependent on the consent being granted for a CPO, which is a separate requirement which would enable the project.

However, my conclusion is that there is insufficient information available as the basis for consideration of impacts of the proposed development in the context of the requirements of Appropriate Assessment.

For this reason, I consider that the Board is not in a position to make a determination that the proposed development by itself or in combination with other plans or projects in the vicinity would not adversely affect the integrity of European Sites in view of the sites' conservation objectives.

I consider that there is a suite of information which should be requested by the Board. In my opinion this information should have been available as part of the planning application and incorporated into the application submissions including the Natura Impact Statement. The matters of concern were highlighted as part of an agenda to the oral hearing and while information presented to that hearing was not without substance and did shed light on some of the items of interest, the geotechnical report also opened up new matters which in my opinion require further consideration.

I consider that the appropriate course of action in this case is to request further information as below.

11.0 **Recommendation**

I recommend that the Board request further information as follows.

It is considered that the information submitted with the application and appeal together with the submissions to the oral hearing is insufficient to enable the Board to conclude that the project would not adversely affect the integrity of the European Site River Barrow and River Nore SAC in view of the site's Conservation Objectives.

The Board considers that the requirement for evaluation to be based on best scientific knowledge and the need for clear documentation of the process cannot be met in this instance.

The Board considers that it is not demonstrated that the proposed development would not adversely affect the qualifying interest Demoulin's Whorl Snail.

Furthermore, the Board considers that information contained in the Site Investigation report of PGI which was presented at the oral hearing raises issues, which are relevant to Appropriate Assessment but which are not addressed in the Natura Impact Statement.

Accordingly, the applicant is invited to respond to the following matters by way of supplementary submissions.

1. The Board notes the precautionary approach taken in relation to Demoulin's Whorl Snail, which is a qualifying interest of the River Nore and Barrow SAC

and the presumption by the applicant that the species is present in Dunmore Complex, which contains suitable habitat.

The Board notes limitations of the surveys on which knowledge of the connectivity between the fens and groundwater was derived and the installation of groundwater monitoring equipment in September 2016 as part of the geotechnical investigation.

The Board is not satisfied based on the hydrogeological information presented that the proposed development will preserve the environmental conditions necessary to maintain the favourable conservation condition of Demoulin's Whorl Snail, if present.

The applicant is requested to provide a report prepared by a recognised expert on the Demoulin's Whorl Snail. The report shall be based on a new survey or on previous knowledge of the Dunmore Complex. It shall describe the results of any surveys or other information and assess the significance of this part of the SAC in the vicinity of the rising main for the species.

In the event that the specialist ecologist confirms the presence of Demoulin's Whorl Snail the applicant may wish to secure the services of a suitably experienced hydrogeologist to prepare a conceptual model of the hydrogeological regime affecting the Dunmore Complex.

In such case the ecologist's report shall contain an assessment of the impact of the proposed development. That assessment shall be undertaken following consultation with the hydrogeologist and the project engineer. It shall set out a clear conclusion relating to the impact of the proposed development on the qualifying interest.

Any mitigation measures including in relation to the pipeline and any relevant construction phase monitoring shall be outlined in further detail to facilitate assessment and to provide clarity for the construction stage.

The Board considers that this information is likely to be necessary for the applicant to demonstrate that the proposed development would not have an adverse impact on the habitat of Demoulin's Whorl Snail in the context of the requirements of Appropriate Assessment.

2. The Board considers that the geotechnical interpretative report prepared by PGI, which was presented by the applicant at the oral hearing raises issues which are relevant to consideration of Appropriate Assessment and should be incorporated into the Natura Impact Statement.

   In particular, the applicant is requested to comment on the construction of the intake structure and pumping station and the description of groundwater as a particular design risk. The recommendation to undertake trial pump tests to establish dewatering requirement where significant excavations are required is noted. The Board considers that there is not demonstrated to be sufficient information on the quantities of groundwater likely to be encountered and how this can be satisfactorily handled during construction. A detailed response in terms of baseline information and management proposals is required in order to allow for completion of Appropriate Assessment.

   The applicant is requested to comment on any other locations where significant dewatering will be required and to describe how this will be managed.

3. Arising from items 1 and 2 above the applicant is invited to incorporate any revisions to documents previously submitted including detailed design, Natura Impact Statement, Schedule of Mitigations and Construction and Environmental Management Plan.

   In addition, the applicant is requested to provide further detailed regarding the suggested mitigation measures involving puddle clay stanking at the pipeline. This shall relate to the reference to prevention of flooding of low lying lands adjacent the Nore as well as measures relating to the pipeline in the SAC.

Mairead Kenny
Senior Planning Inspector

21st June 2018