An Bord Pleanála

Inspector's Report ABP302649-18

Development	Proposed Waste Water Treatment Plant, Interceptor Sewers and Associated Works.
Location	Ferrybank and Tinahask Lower, Arklow.
Planning Authority	Wicklow County Council.
Planning Authority Reg. Ref.	Not Applicable
Applicant(s)	Irish Water.
Type of Application	Application under the provisions of S37 of the Planning and Development Act and Compulsory Purchase of Lands under the Housing Act 1966.
Planning Authority Decision	Not Applicable.

Observers to the Strategic Infrastructure Application	Development Applications Unit Transport Infrastructure Ireland Health Service Executive Inland Fisheries Ireland Geological Survey of Ireland Sophia Meeres Arklow Marine Services Peter Byrne Ferrybank and Seaview Residents Patrick and Patricia Ivory Elizabeth Kenny and Nicola Kenny Arklow Ferrybank Developments Ltd Arklow Marina Village Owners Management Company Ltd.
Objectors to the CPO	Aldi Stores Ireland (subsequently withdrawn) Peir Leonard & Roger Prestage Christine McElheron Arklow Marina Village Owners Management Company (subsequently withdrawn) Arklow Ferrybank Developments Ltd. Ailish Byrne
Date of Site Inspection	28th November 2018 & 21st January 2019
Inspector	Paul Caprani.

Contents

1.0 **Introduction**

1.1. An application has been lodged under the provisions of Section 37A of the Planning and Development Act, 2000 (as amended). The applicant, Irish Water seeks permission for a proposed wastewater treatment plant together with interceptor sewers and associated stormwater infrastructure together with a new sea outfall pipeline at Arklow, County Wicklow. The application has been accompanied by an Environmental Impact Assessment Report, a Natura Impact Statement and associated documentation.

1.2. Irish Water have also submitted an associated application for the compulsory acquisition of lands and wayleaves and well as temporary construction areas to facilitate the proposed development (see accompanying application ABP302649-18).

1.3. An Oral Hearing in respect of the strategic infrastructure application and the compulsory purchase of the said lands was held between the 22nd and 25th January 2019, (the CPO Hearing was re-opened on June 21st 2019). The hearing was held in the Arklow Bay Hotel. A total of 14 objections/observations were submitted in relation to the proposed strategic infrastructure development, including five submissions by prescribed bodies. A total of 7 objections, (two of which were subsequently withdrawn at the hearing) were received in respect of the compulsory acquisition of lands. Numerous concerns were raised in the case of both applications in respect of the suitability of the subject site to accommodate a wastewater treatment plant. A number of observers raised concerns in relation to the construction impacts arising from the proposed development, particularly in relation to the noise and vibration impacts associated with the construction of the interceptor sewers along the Quays in close proximity to dwellings.

2.0 **Pre-Application Consultations**

2.1. A total of seven pre-application consultations were held with the applicant, Irish Water between 27th August, 2015 and the 6th March, 2018. Meetings were also held between An Bord Pleanála and Wicklow County Council and An Bord Pleanála and the Office of Public Works.

2.2. The Board concluded on foot of the meetings held, that the proposed works to be undertaken comes within the provisions of Part 3, “Environmental Infrastructure” of the Seventh Schedule of the Planning and Development Act, 2000 (as amended), and also consider that the proposed development would satisfy the criteria set out under paragraphs A and B of Section 37A(2) of the Planning and Development Act, 2000 (as amended). The Board’s decision was dated 22nd May, 2018.

3.0 Site Location and Description

3.1. Introduction

3.1.1. The town of Arklow, is the third largest agglomeration in County Wicklow behind Bray and Greystones/Delgany. Arklow is located in the south of the county and has a population in 2016 of 14,353. The town is located at the mouth of the Avoca River where it discharges into the Irish Sea, and at its closest point, the town is located approximately 4 – 5 kilometres from the Wicklow/Wexford border. The Avoca River flows through the centre of the town and discharges into the Irish Sea at a point approximately 1 kilometre east of the town centre. A single bridge traverses the Avoca within the town centre. This bridge is a protected structure. Arklow has a strong association with maritime activity including fishing and boat building. The land uses in the harbour area (where the WWPT is proposed to be located) to the east of the town centre reflect the former traditional maritime industries associated with the town. However, much of the land in the harbour/dock area has become vacant and derelict in more recent years.

3.1.2. In terms of wastewater treatment, currently the existing town is served by 19 overflows and outfalls which discharge untreated sewage from the town directly into the Avoca River. These overflows and outfalls are located along the North Quay and South Quay of the river.

3.1.3. Under the current application before the Board the following is proposed.

- A new wastewater treatment plant at Mill Road to the east of the town.
- A long sea outfall pipe 930 metres in length discharging treated effluent from the WwTP into the Irish Sea.

- A proposed interceptor sewer along the North Quay of the town, between an existing outfall located approximately 50 metres west of the Arklow Bridge and the proposed WwTP on Mill Road.
- The provision of an interceptor sewer along the South Quay and the 'River Walk' along a distance of approximately 1.1 kilometres.
- Other works are also proposed including:

  - the augmentation, strengthening and reinforcement of the existing revetment area along the coastline to the north of the river,

  - New stormwater overflow tanks at the Alps and Harbour Road

  - the provision of a temporary access road to the north of the site and

  - the provision of compound and construction areas.

A detailed site description of the various parts of the development are set out under section 4 of my report below.

3.2. **Wastewater Treatment Plant**

3.2.1. The proposed wastewater treatment plant is located on the eastern side of the town to the north of the River Avoca on a derelict former factory site adjacent to the coast. The site previously accommodated a chemical works in the 19th Century and subsequent to this it accommodated a gypsum plant and a wallboard factory. (The site is referred to in most of the documentation and the various submissions at the Oral Hearing as the 'Old Wallboard Factory'). The overall footprint of the site to accommodate the wastewater treatment plant is approximately 2.76 hectares. It is bounded to the south and south-east by vacant dockland areas associated with the harbour. A large boulder revetment runs along the coastal area adjacent to the eastern boundary of the site. Part of the Mill Road runs along the north-western boundary of the site. A former industrial site which is currently disused and has recently been cleared of buildings is located to the immediate north-west of the subject site. A former industrial site is also located on contiguous lands to the south east of the subject site. This site is referred to as the 'Foudi Site' and accommodates a number of derelict structures and large circular storage tanks. Lands on the

northern side of the Mill Road to the north of the site accommodate an outdoor play area and running track to the north of which Arklow Leisure and Sports Centre is located.

3.2.2. Directly opposite the main entrance of the site on the western side of Mill Road and extending down to North Quay is Arklow Marine Services, commercial ship builders, ship designers and general engineers. To the rear of Arklow Marine Services, further west of the subject site, is a large residential development in the form of a series of three storey apartment blocks known as 'Arklow Marina Village'. This residential area faces onto a small marina area, accommodating moored boats, which is located between the subject site and the Marina Village.

3.2.3. The site itself accommodates a former gypsum factory (formerly known as Arklow Gypsum and also known as the Wallboard site). The factory has been closed for c.20 years and comprises of a number of large metal clad buildings which are currently in a sorry state of disrepair. The buildings are surrounded by bare spoil areas of hardstanding which is slowly being recolonised with vegetation. The existing sheds on site are dilapidated and comprise of large structures which run along a north-west/south-east axis and are between 160 and 200 metres in length. The northern end of the site accommodates the largest of the structures which rises to almost 30 metres in height. A standalone metal chimney stack located in the northern portion of the site rises to a height of approximately 46 metres. The remainder of the buildings on site to the south rise to a height of approximately 11 metres in height. All these buildings are being demolished to make way for the proposed wastewater treatment plant. Some of the larger industrial type/warehouse buildings in the vicinity of the site are also large in scale and rise to between 15 and 20 metres in height. Information contained on file indicates that some of the buildings on site accommodate asbestos.

3.3. **Proposed Interceptor Sewers**

3.3.1. It is proposed to construct new interceptor sewer pipes along the northern and southern banks of the Avoca River within the town. These interceptor sewer pipes are to intercept and collect the wastewater which is currently discharged untreated into the river from the combined sewer pipework currently serving the town. On the south side of the river, the pipe is to run from the western environs of the town of

Arklow along the “Riverwalk” and the “South Quay” before traversing the Avoca River at a point between Harbour Road on the south side and Mill Road on the north side where it will be pumped into the wastewater treatment plant.

Interceptor Sewer on the South of the River

3.3.2. On the south side of the river it is proposed to construct approximately 1.1 kilometre of sewer of which approximately 300 metres will be located within the river channel. The interceptor sewer commences in an area known locally as “The Alps” which is located approximately 300 metres to the west of Arklow Bridge. The Alps comprise of overgrown depression surrounded on either side by higher ground fronting directly onto the river. This area is to accommodate a large 400m^3 reinforced concrete water and foul sewer retention tank. The interceptor sewers are to run eastwards from this tank and range in diameter from 150 millimetres to 1,200 millimetres and will be laid at a depth of 2 metres to 5.5 metres below ground level. The sewer pipes progressively become larger in diameter as the sewers are laid eastwards across the town in order to cater for increased flows.

3.3.3. The sewer will extend along river walk which comprises of a promenade and walkway adjacent to the Avoca River in the western environs of the town. Many of the rear yards associated with commercial premises fronting onto Main Street, Arklow back onto the riverside walkway area. There are also a number of commercial developments including cafes fronting directly onto the walkway. A number of access lanes link the Main Street of Arklow with the walkway. Surface car parking spaces are also located adjacent to the riverside walk to the west of Arklow Bridge. The proposed interceptor sewer will be located along this section of the walkway area.

3.3.4. To the immediate west of Arklow Bridge, it is proposed to extend the interceptor sewer into the river channel and underpin it to abutments beneath the bridge at its southernmost arch. The interceptor sewer will then run along the bed of the river channel for a distance of approximately 300 metres to the immediate east of the bridge on the southern side of the river. The sewer will then be rediverted from underneath the riverbed back onto the South Quay and run along the carriageway as far as Harbour Road where it will be diverted northwards across the river.

3.3.5. The contiguous land uses along the South Quay to the east of Arklow Bridge are predominantly residential with the exception of a number of commercial uses adjacent to the bridge and at the eastern end of the pipeline. The residential dwellings comprise of a mixture of late Victorian/Edwardian terraced dwellings which front directly onto the South Quay together with newer, mid-twentieth century suburban type semi-detached dwellings with large front gardens facing onto the quay and newer apartment blocks which have direct frontage onto the quay.

3.3.6. The interceptor sewer will traverse the Avoca River at a point between Mill Road and the junction of South Quay and Harbour Road approximately 600 metres east of the Bridge. The width of the river at this location is approximately 120 metres.

Interceptor Sewer on the North of the River

3.3.7. On the north side of the river, the interceptor sewer commences with the interception of a foul sewer which discharges into the Avoca approximately 50 metres west of Arklow Bridge. The proposed alignment of the interceptor sewer falls outside but is adjacent to the Arklow Town Marsh pNHA. Some of the proposed working area appears to be within the boundary of the pNHA. The sewer alignment continues along North Quay within the carriageway to the east of the bridge for a distance of approximately 450 metres. Adjacent land uses along North Quay are predominantly commercial with the large Bridgewater Shopping Centre located to the immediate east of the bridge on the north side of the river and an Aldi supermarket further east of the shopping centre. Surface car parking associated with the Aldi centre abuts the Northern Quay. A number of small office buildings and Arklow Sailing Club are also located along the North Quay. These buildings likewise are setback from the roadway and surface car parking areas are located adjacent to the roadway. There is no amenity walk along the river's edge on the North Quay. The interceptor sewer is located in its entirety along the roadway along the North Quay.

3.3.8. The interceptor pipe then turns north-east and runs within the internal roadway which surrounds the small marina area to the west of the wastewater treatment plant. The sewer route is located within the road that serves Arklow Marina Village. The interceptor sewer then enters the wastewater treatment plant at Mill Road.

3.4. The Proposed Outfall Pipe

3.4.1. The proposed outfall pipe is to extend in a north-easterly direction from the revetment area at the south-eastern corner of the site and is to extend 930 metres into the sea bed. The pipe has an internal diameter of c.600mm. Marine investigations in the vicinity of the diffuser indicate that the seabed is relatively loose at this location and comprises of stones with very little fine gravel and sedimentation. The proposed outfall will be located c.10m below the sea level.

3.5. Other Works

3.5.1. It is proposed to construct a temporary roadway between the existing revetment coastal area and the recreational fields associated with Arklow Leisure Centre. This temporary roadway will provide access between Seaview Avenue and the northern boundary of the site. It is primarily to provide access for construction vehicles to the WWTP.

3.5.2. There are a number of temporary working areas to be provided along the alignment of the interceptor sewer on the north and south banks of the Avoca River. A large construction compound is also located to the immediate south of the marina area on the south side of the river to the immediate east where it is proposed to provide the river crossing for the interceptor sewer. This large construction compound comprises of a former warehouse site which is currently vacant.

3.6. Baseline Water Environmental Designations and Water Quality

3.6.1. The site is not located within or contiguous to any designated Natura 2000 Sites. The nearest Natura 2000 are:

- The Buckroney- Brittas Dunes and Fen SAC (Site Code 000729) which is located, at its closest point, approximately 5 km along the northern coast.
- The Kilpatrick Sandhills SAC (Site Code 001742) which is located approximately 6.5 km along the southern coast.
- The Slaney River Valley SAC (Site Code 000781) is located c.14 km to the west of Arklow Town. However, there is no hydrological connection between Arklow Town and this SAC.

3.6.2. In terms of water quality, the Avoca River has been assigned a status of 'moderate' down stream of Arklow Bridge. The Avoca Estuary was also assigned an 'at risk' status, this is mainly attributed to diffuse contamination associated with the IFI Chemical Works up-stream within the catchment.

3.6.3. The ecological status of the Avoca Estuary was classed as being 'unassigned' due to insufficient information. In terms of coastal water quality, the proposed outfall is located in an area designated as 'coastal waters' under the WFD. The area of coastal water in which the outfall is located is designated as being 'unpolluted'.

3.6.4. In terms of bathing waters, there are two designated bathing waters in the vicinity of the town. Britta Bay beach, c. 5 km to the north and Clogga Beach c. 3 km to the south. Both of these beaches have been assigned a status of 'excellent quality' in accordance with the requirements of the Bathing Regulations (2008).

4.0 **Proposed Development**

Planning permission is sought for the following:

4.1. **The Construction of New Interceptor Sewer**

4.1.1. It is proposed to construct a new stormwater storage tank (400 m^3 storage volume) with reinforced concrete walls, base and roof at the western end of the proposed interceptor sewer at the "Alps". The proposal will involve raising the existing ground profile by approximately 1 metre to accommodate the tank structure. The new storage tank will be located within a 2.4-metre-high fence. Existing sewer connections will be diverted into a new interceptor sewer at this location. The storage tank will provide capacity for holding stormflows so as to ensure that the stormwater overflow at this location will discharge to the Avoca River no more than seven times per bathing season in accordance with the requirements of the Bathing Water Regulations and the Waste Discharge Authorisation Regulations.

4.1.2. The section of sewer will be constructed within a cut and cover trench. This construction method will be used along the southern interceptor sewer between the Alps and the South Quay. The reminder of the interceptor sewer will be constructed by tunnelling methods, using a tunnel boring machine (TBM). A series of tunnel shafts will be sunk along the sewer alignment both on the North and South Quays to

facilitate the tunnelling. It is proposed to provide approximately 1.1 kilometre of sewer on the southern side of the Avoca River between river walk and South Quay and this will involve the provision of approximately 300 metres of sewer within the river channel. It is also proposed to underpin works to the abutments on the most southerly arch of the Arklow Bridge which is a protected structure (RPSA26) so as to facilitate the interceptor sewer beneath the bridge. The works will involve some land reclamation (approximately 650 sq.m) along the southern quay as part of the works for the interceptor sewer. The quay will be moved further north by approximately 6 metres into the river channel over a distance of approximately 275 metres. Sheet piling will be installed outside the area of reclaimed land and the sewer will be laid within the section of reclaimed land. The existing outfall pipes that discharge into the Avoca River along this section of quay wall will be extended so as to connect in with the new interceptor sewer within the reclaimed land area.

4.1.3. The river crossing will involve the tunnelling of 1,500 millimetre diameter pipeline located approximately 4 metres below the river bed for approximately 120 metres between South Quay and Harbour Road junction.

4.1.4. On the north side it is proposed to construct a 525 millimetre diameter pipeline which will commence immediately upstream of Arklow Bridge and divert effluent from the existing foul sewer at this location adjacent to Arklow Town Marsh. This pipeline will be approximately 2 metres below ground level. The pipeline will then increase to approximately 1,200 millimetres in diameter in order to accommodate population growth and the anticipated future network improvements in Ferrybank and North Arklow. The pipeline will cross under the roundabout north of Arklow Bridge and will continue along North Quay approximately 3 to 4 metres below ground level. The interceptor sewer will be entirely tunnelled along North Quay. The flows will be transferred from the existing foul sewer network to the new interceptor sewer along the northern side of the Avoca River.

4.1.5. The sewers along the north and South Quays will convey wastewater via gravity to a pumping station outside the entrance to the wastewater treatment plant. The pumping station will be located approximately 17 metres below ground level at the invert level of interceptor sewers at this point will be approximately 11 metres below ground level.

4.1.6. 12 vent stacks will be provided along the length of the interceptor sewer for ventilation and each of the tunnel shafts. The vents will extend to a height of 7.6 metres above ground level to provide dispersion of odours to the atmosphere under all meteorological conditions.

4.2. **Wastewater Treatment Plant**

4.2.1. The proposed wastewater treatment plant is to provide for an ultimate capacity of 36,000 PE and the treatment will include preliminary and secondary treatment.

4.2.2. The proposal will involve the demolition and clearance of all existing buildings on site which will involve the removal of asbestos panel cladding. Once all buildings have been demolished, further site investigations will be undertaken to assess the underlying ground conditions and whether or not significant amounts of contaminated soil exists on site.

4.2.3. The proposed wastewater treatment facility will incorporate four separate buildings.

4.2.4. An **administrative building** is proposed adjacent to the main vehicular access point off the Mill Road. The administration building will comprise of a two-storey structure. It incorporates a V-shaped roof profile and rises to a height of 10.1 metres. It accommodates reception area, canteen as well as changing and toilet facilities at ground floor level. An office meeting room, training room and control room are located at first floor level. The external fabric of the building is to incorporate fibre cement panels.

4.2.5. In proximity to the administration building in the northern portion of the site, is the **inlet works building**. This is a large building rising to a height of 16.5 metres and covering a gross floor area of approximately 2,450 square metres (63.6 metres by 38.5 metres). Effluent is to be pumped into the inlet works where effluent will be screened. The inlet works sumps is to be located approximately 18 metres below ground level to allow all wastewater to flow by gravity to the inlet works pumping station. The inlet pumps will lift (pump) the wastewater for preliminary treatment in the upper level of the inlet works building. Preliminary treatment will comprise of screening and grit removal as well as stormwater management. Two large stormwater tanks are located at ground floor level within the building. Wastewater will also pass through an aerated grid tank with 6 millimetre fine screens to remove

smaller particles from the incoming wastewater. Fats, oils and greases will also be removed at the inlet works. Skips will be located throughout the first and second floor and once filled will be transferred to an authorised facility at a frequency of approximately twice per week. The stormwater holding tank will have a capacity of approximately 3,150 cubic metres and will be fitted with an emergency overflow to allow discharge of flows in excess of the tank's capacity to a surface water outfall that will discharge into the Irish Sea.

4.2.6. To the immediate south of the inlet works building it is proposed to locate **the Sludge Tank Enclosure.** This building rises to a height of 8.5 metres and is 54 metres in length and 16 metres in width giving a gross floor area of c.869 square metres. This building is to accommodate three circular sludge holding tanks.

4.2.7. To the immediate south of the sludge tank enclosure building is the proposed **Process Building.** This building is the most southerly building within the site with a maximum depth below ground level of 3.5 metres and a roof height of 14.5 metres. This building has a gross floor area of 2,574 square metres. It incorporates the same external façade as the other buildings on site. This building will treat all effluent to secondary standard prior to discharge.

4.2.8. From the inlet works effluent will be transferred to a secondary treatment unit via an underground pipe. The preferred system of treatment is the sequencing batch reactor (SBR) 'fill and draw' type system. A typical cycle will last 6 hours in duration. The building will also accommodate a power generator room, a diesel tank, ESB and transformer rooms and a store room and workshop. Each tank will have a capacity of approximately 1,350 cubic metres.

4.2.9. Sludge generation from the treatment process is estimated to be in the region of 400 cubic metres per day with a dry solid content of 0.67%. The sludge tanks are designed to take approximately four days storage. Drum thickeners will thicken the sludge to a dry solid content of approximately 5.5%. There will be 18 days storage for the thickened sludge. The sludge will then be put through a belt press or centrifuge in order to increase the total dry solid contents to a minimum of 18%.

4.3. Odour Treatment

4.3.1. In terms of odour treatment, odour treatment units will be installed comprising of biological or carbon filters. Emissions will be put through an activated carbon vent stack which will discharge odours 1 metre above the roof height of the existing building. Air from the following will be treated from the odour treatment units.

- The inlet sump and pump.
- The stormwater holding tank.
- The screening and grit disposal skips.
- The sludge holding tanks, thickeners and dewatering area.
- The supernatant sump.

The process building where secondary treatment is to take place will be sealed and mechanically ventilated. The odour control system of the wastewater treatment plant has been designed to comply with an odour limit of 3 OU/m^3 as a 98th percentile at the wastewater treatment site boundary.

A laboratory within the administration building will carry out constant monitoring testing of the effluent and sludge.

4.4. Long Sea Outfall

4.4.1. The long sea outfall pipe as well as the stormwater outfall within the WwTP will discharge directly into the Irish Sea. The long sea outfall pipe is likely to comprise of a HDPE pipe with an internal diameter of c.630 mm. A final decision on the method of construction has yet to be finalised. The methods under consideration are (a) Horizontal Directional Drilling (b) Flood and Float Method (c) Bottom Pull Method. Six vertical diffusers will emit the effluent approximately 900 metres out to sea at a depth of approximately 10 metres below sea level. Flow through the long sea outfall pipe will be via gravity.

4.5. Plant Capacity

The average daily loading of the plant based on the PE of 36,000 is set out in the Tables below.

Table 1 Average daily Organic Loads based on 36,000 PE

Design Criteria	PE 36,000
BOD (60g per capita)	2,293 kg/d
TSS (75g per capita)	3,033 kg/d
COD (120g/d capita)	4,986 kg/d
TN (12g/d per capita)	432 kg/d

Hydraulic Loads	225 l/d per capita
Dry Weather Flow	8,100 m^3 /d - 94 l/s
Formula A Flows (Max Flows)	61,981 m^3 /d - 716 l/s
Average Flow (AWF)	10,125 m^3 /d - 117 l/s

4.6. **Upgrading of Revetments**

The existing rock armour revetment adjoining the site along the coastal area will be upgraded and augmented as part of the proposed development. The existing rock armour will be removed and subsequently replaced over a distance of approximately 350 metres along the wastewater treatment plant boundary. The alignment of the revetment will follow the existing shoreline at its northern and southern ends. The central area will be extended slighting towards the coastline. An existing cable runs beneath the revetment. A 10 metre buffer around the cable will be adhered to. The revetment height will be increased circa 1 to 3 metres above the existing height and the total width of the base of the revetment will be approximately 50 metres and this will taper to a width of approximately 10 metres at the apex of the revetment.

4.7. **Separate Consents**

A number of other statutory consents are required, they are briefly set out below:

4.7.1. Under the provisions of the Foreshore Act 1933 (as amended) a lease or a licence must be obtained from the Minister of Housing, Planning and Local Government for

development works to be carried out at the foreshore. Foreshore consent applications will therefore be required for the following specific elements of the development.

- Underpinning of Arklow Bridge.
- Construction works in the Avoca River in relation to the interceptor sewer and sheet pile walls.
- The tunnelling of the interceptor sewer under the Avoca River between the north and South Quays.
- The construction of the Long Sea outfall into the Irish Sea.
- The construction of the stormwater overflow and upgraded revetment area.

4.7.2. The EIS states that consent applications under the provision of the Foreshore Act for the above works are being submitted simultaneously to the application to the Board.

4.7.3. The applicant will also be required to apply to the EPA for a Wastewater Discharge Authorisation Licence to treat treated effluent to the Irish Sea and discharge storm overflows to the Avoca River and the Irish Sea. Prior to the commencement of any operations on site Irish Water will apply to the EPA for the waste discharge licence. The application for the wastewater discharge licence will amend the previous Waste Discharge Authorisation for Arklow and Environs which was submitted to the EPA in December, 2007. It appears from the EPA website that the existing application for a wastewater discharge authorisation has not been determined.

5.0 Documentation Submitted with the Application

The applications were accompanied by the following documentation.

5.1. Documentation submitted with the SID Application

- Completed planning application form.
- Public notices advertised in the Wicklow People (5th September, 2018).
- Irish Independent (5th September, 2018).

The following drawings were submitted.

- Key plans and layouts (247825-00-C-IS001 to 005).
- Architectural drawings for the buildings to be constructed (247825-00-DO-101 to 104). (247825-00MP-001 to 010). (247825-00INL-001 to D003). (247825-00PRO-P001 to D003).
- Drawings of the interceptor sewer route including working areas (247825-00-C-IS-1500 to 1516).
- Details of the revetment upgrade (247825-00-MR101 to 203).
- Details of the Long Sea outfall and stormwater overflow at the wastewater treatment plant (247825-000MO-101 to 401).
- Details of the administration building (247825-00-ADM-P001 to 003).
- Details of the sludge tank enclosure (247828-00-STE-001).
- Details of the landscaping and site infrastructure (247825-00-L-001 to 008).
- External lighting layout (247825-00-EL-LT-1000).
- Interceptor sewer traffic and phasing (247825-00-C-IS900 to 933).
- Interceptor sewer longitudinal sections and associated details (247825-IS700 to 756).
- Alp stormwater overflow and stormwater storage (247825-00C-IS-801 to 806).

An Environmental Impact Assessment report which comprises of the following.

Volume 1 – Non-technical summary.

Volume 2 – Written statement (three separate volumes).

Volume 3 – Figures.

Volume 4 – Appendices (set comprising of seven separate volumes).

Also submitted were the following:

- A Natura Impact Statement.
- A separate Planning Report.
- Volume 4 – Photomontages.
- A schedule of letters sent to Prescribed Bodies

5.2. **Documentation Submitted with the CPO Application**

The following particulars were submitted with the application.

- A Copy of **the Managing Directors Report** dated August 29th 2018. It notes that currently the wastewater infrastructure serving the town of Arklow is non-compliant with European Legislation and that the proposed development is intended to resolve this problem. It set outs details of the proposed development. The report states that the Managing Director is satisfied that the lands, permanent wayleaves, rights of way, temporary construction rights and temporary construction areas are necessary for the implementation of the wastewater treatment plant project. The Director is also satisfied that all reasonable alternatives have been fully considered. It is also submitted that the proposed project (a) constitutes sustainable development, (b) is in the community interest and (c) is required to assist Irish Water in fulfilling its duties and functions under the Water Services Act, 2007. The Director is also satisfied that the proposal planning policy and it related to the GDA, Wicklow and Arklow.
- Copies of the of a signed and sealed order dated 29th August 2018.
- Copies of CPO drawings IW/10001574/CPO 01 to 06 (six separate drawings).
- Copy of the Public Notices as published in the Irish Independent and the Wicklow People on the 5th of September, 2018.
- A sample copy of CPO notices sent to land owners and details of registered posts in relation to same.
- Engineering Report by Michael Tinsley, Chartered Engineer, stating that the proposed works are in conformity with the planning and development objectives of the area and the acquisition of land is necessary for the fulfilment of the project. The report also sets out the functions entrusted in Irish Water together with the existing situation and the need for the scheme. The scheme is then described and the site selection process is also set out. It is stated that attempts have been made to acquire the lands to facilitate the proposal be it, permanent or temporary, temporary working areas and rights

of ways. However, in some cases this proved not possible on that grounds that (i) Part of the lands concerned were unregistered, (ii) the correct owners could not be determined (iii) Some owners were unwilling to engage with Irish Water. In such instances it was decided to seek a CPO on the said lands. The report states that alternative options were explored prior to embarking on the CPO procedures. The project aims to meet the various legal requirements set out in European legislation and strategic objectives out in national, regional and local planning policy.

6.0 Planning History

6.1. WWTP's in Arklow – History to Date

6.1.1. With regard to the history of the wastewater treatment plant at Arklow Town there have been two previous applications.

6.1.2. There were two previous applications on site in the townland of Seabank approximately 2.5 kilometres north-east of Arklow Town Centre. Under **Reg. Ref. 93/280** planning permission was granted by Wicklow County Council for a treatment plant treating effluent to secondary standard. The decision was subject to a number of third party appeals. An Bord Pleanála under PL27.092119 confirmed the Planning Authority's decision and granted permission for the proposed development in March, 1994.

6.1.3. In November, 1993 the Department of the Environment issued guidance on the treatment and disposal of sewage sludge. In order to ensure compliance with the sludge strategy, primary sludge settlement was required. On foot of this requirement another application was made to Wicklow County Council in January 1999. Permission was granted by Wicklow County Council in July 1999. The decision was subject to a number of third party appeals and in September, 1999 legal proceedings were initiated seeking the quashing of the Planning Authority's decision. A judgement in 2003 found in favour of both Wicklow County Council and Arklow Urban District Council and refused all relief sought. An application for leave to appeal the above decision was refused by the High Court in February 2004.

6.1.4. In July, 2004 the appeal was reactivated by way of an invitation of further submissions to the Board. The Board held an oral hearing in respect of the proposal in November, 2004. The Board issued notification to grant planning permission under **PL27.112569.** However, this consent was the subject of judicial review to the High Court and the Supreme Court with a ruling in July, 2011 upholding the consent to progress the scheme. However, further legal challenges were brought against the Compulsory Purchase Order and Irish Water in reviewing the status of the extent consents and the ongoing legal challenges, concluded that it would not be feasible to advance the construction before the planning permission expired in April, 2015. Irish Water therefore made the decision to commence the new planning application currently before the Board.

6.2. **Planning History associated with the Appeal Site and its surroundings**

6.2.1. With regard to the planning history associated with the appeal site and its surroundings the following is of relevance.

6.2.2. There appears to be no planning application associated with the subject site in the recent past.

6.2.3. There are three planning applications relating to the site to the immediate west, and south-west, the latter site is referred to in the grounds of appeal as the 'foudi site'. The relevant applications are summarised below.

6.2.4. Under Reg. Ref. 08610009 planning permission was granted on 12th February, 2008 for the demolition of existing tanks and buildings on site and the proposed use of the site for storage.

6.2.5. On the same site, planning permission was granted for the demolition if existing warehouses and four storage tanks and the construction of a new five storey apartment block with an eight storey central circular block all with glazed balconies for the accommodation of 118 apartments and 158 ground floor car parking spaces. Permission was granted on 21st January, 2006.

6.2.6. Under planning application 16/15 Wicklow County Council refused the extension of the licensed permission in April, 2016. Permission was refused on the grounds that it was considered that the development would be inconsistent with the proper planning and sustainable development of the area having regard to guidelines issued by the

Minister under Section 28 namely the 'Sustainable Urban Housing: Design Standards for New Apartment Guidelines for Planning Authorities' issued in December, 2015.

6.2.7. On the Arklow Marine Services site on the north-western side of the Mill Road, in close proximity to the proposed entrance to the wastewater treatment plant, planning permission was granted under Planning Ref. 05610115 for the demolition of existing structures and the construction of two five-storey blocks comprising of eight retail units and 50 residential units together with an on-site wastewater treatment facility and associated parking. The decision was dated 18th April, 2006.

6.2.8. A further planning application was made under Reg. Ref. 15/857 for a similar development comprising of the demolition of existing structures and the construction of two five-storey blocks comprising of eight retail units at ground floor level and 50 residential units overhead and an on-site wastewater treatment system on the 17th August, 2015 and permission was subsequently granted 11th October 2015.

7.0 Planning Policy and Guidelines

7.1. National Policy

7.1.1. **The National Planning Framework** sets out the planning and infrastructure priorities for Ireland to the year 2040. Section 9.4 of the document sets out strategic priorities in relation to water and wastewater. Specifically, in relation to wastewater the document notes that the EPA consider urban wastewater to be one of the principle pressures on water quality in Ireland and the treatment and disposal of wastewater in an environmentally sound manner is critical for human health. This means that we need to ensure adequate treatment and capacity, stormwater overflows operating correctly and that we avoid direct discharges of untreated wastewater.

7.1.2. Urban wastewater treatment plant compliance and remedial actions are therefore a key short term priority. In the longer term, capacity issues will need to be resolved to meet the growing demand to 2040 and beyond.

7.1.3. National Policy Objective 63 seeks 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.

7.1.4. With regard to regional planning policy Wicklow is located within the Greater Dublin Area and is therefore governed by the **Regional Planning Guidelines for the Greater Dublin Area 2010 – 2022.** Section 6.5 of the Regional Guidelines specifically relates to wastewater and surface water treatment. Table 11 sets out critical strategic projects for wastewater and surface water. No. 6 on this water treatment investment priority is the development of a high quality treatment plant for Arklow Town. Arklow is designated as a Large Growth Town II in the hinterland area. These are described as towns which are smaller in scale but strong active growth towns economically vibrant with high quality transport links to larger towns/Dublin City. Strategic recommendations set out in the Regional Guidelines seek continued investment in wastewater treatment facilities and networks to meet the needs of the River Basin Management Plans and to achieve the targets for good water status for river, coastal and transitional waters in the Water Framework Directive.

7.1.5. PIR16 seeks to ensure that future capacity is provided in growth towns to expansion and upgrading of facilities where necessary and/or explanation of alternatives such as to connecting to adjoining draining systems or changes to catchments to enable growth towns to provide for the population growth envisaged in the settlement strategy and thus enable a more sustainable settlement pattern to be supported.

7.1.6. PIR19 notes that plans and projects associated with all wastewater and/or surface water treatments that have the potential to negatively impact on Natura 2000 sites will be subject to a Habitats Directive Assessment in accordance with Article 6 of the said Directive.

7.1.7. Section 3.8 of the Guidelines set out strategic policies and recommendations. This includes Policy ER16 which seeks to proactively deliver new sustainable water supply, wastewater treatment and waste management infrastructure without which the future development of the GDA will be impossible.

7.2. Local Policy Guidance

7.2.1. The Wicklow County Development Plan 2016 – 2022 sets out the overall county strategy for planning and sustainable development.

7.2.2. Chapter 9 of this development plan specifically relates to infrastructure and Section 9.2 specifically relates to water infrastructure and flooding. Section 9.2.3 specifically relates to wastewater. It notes that the ongoing deficiency in the county's wastewater treatment systems have led to increased demand for private treatment plants. Wastewater Objective W16 states that in order to fulfil the objectives of the core strategy, Wicklow County Council will work alongside and facilitate the delivery of Irish Water's Water Services Investment Programme, to ensure that all lands zoned for development are serviced by adequate wastewater collection and treatment system and in particular to endeavour to secure the delivery of regional and strategic wastewater schemes. In particular, to support and facilitate the development of a wastewater treatment plant in Arklow and an optimum location following detailed technical and environmental assessment and public consultation.

7.2.3. Section 9.2.4 which relates to storm and surface water infrastructure notes that the efficiency and capacity of wastewater collection and treatment system can be radically improved through the removal of uncontaminated storm and surface water from the system. Many drainage systems in our towns and villages have combined systems (foul and surface) and the extent of these older systems means that retrospective separation would not be feasible. However, all new development will be required to minimise surface water discharge through sustainable urban drainage systems to separate foul and surface water and not to dispose of surface water into the foul drainage system.

7.2.4. **The Arklow and Environs Local Area Plan 2018 – 2024** provides the land use framework for guiding future development within the settlement of Arklow Town. The subject site is zoned for waterfront development (WZ) uses include houses, apartments, residential open space, education, community facilities, retirement homes, nursing homes, childcare, health centres, guesthouse, bed and breakfast, home based economic activity, retail, restaurant, public house, hotels, parking, maritime uses, aquaculture, harbour uses, tourism uses, recreational uses, general and light industry, office uses, wastewater treatment plant, utility installations and ancillary development and other residential uses in accordance with the county development plan.

7.2.5. The vision under this land use zoning objective is to facilitate the provision of high quality new residential developments at appropriate high densities with excellent

layout and design well linked to the existing town centre, community facilities and water amenities. It seeks to provide an appropriate mix of house sizes, types and tenures in order to meet household needs and to promote balanced communities. It also seeks to facilitate the provision of high quality new commercial, maritime, leisure, tourism and amenity uses at a scale that does not undermine the role of the existing town centre. To facilitate the extension and continued use of existing employment, maritime and port uses within the zone. To facilitate the provision of a new wastewater treatment plant with an appropriate high quality architectural design/appearance.

7.2.6. Chapter 9 relates to infrastructure transportation and movement. In relation to wastewater it is stated that there is no wastewater treatment plant in Arklow. There is an existing piped wastewater system which was installed in the 1930s and was designed as a combined sewer (foul and surface water) which discharges untreated wastewater directly into the River Avoca. Irish Water is in the process of preparing an application for planning (or strategic infrastructure development) consent for a wastewater treatment plant of 36,000 population equivalent on the North Quay, Ferrybank. If this plant is constructed there will be sufficient capacity for wastewater treatment required to serve the population target and all associated community employment and commercial demands.

7.3. Legal Requirements

7.3.1. Water Framework Directive. The Water Framework Directive was adopted under Council Directive 2000/60/EC. The water framework directive provides the overarching legislative framework for the protection of all waters including rivers, lakes, estuaries, coastal waters and groundwaters and the dependent wildlife and habitats. The water framework directive in itself does not set out detailed standards for water quality. It does provide a methodology for characterising water bodies. Other EU Directives which have been transposed into Irish law set out more specific requirements for water quality standards and the relevant standards are set out below.

7.4. Urban Wastewater Treatment Regulations (S.I. 254 of 2001)

7.4.1. Require that all other urban wastewater entering collection systems for a population equivalent of 10,000 and over to provide for secondary treatment or equivalent. The

secondary wastewater treatment system shall be required to treat effluent to at least the following standards.

7.4.2. There are two designated bathing areas within the wider vicinity of Arklow. Clogga Beach approximately 3 kilometres to the south of Arklow Town Centre and Brittas Bay Beach which at its closest point is approximately 5 kilometres to the north of the subject site.

7.4.3. The Bathing Water Regulations (S.I. 79/2008) require the following bathing water targets.

- E.coli – less than 250 cfu/100ml (excellent quality).
- Intestinal enterococci (i.e. – less than 100 cfu/100ml) (excellent quality).

7.5. The European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. 272/2009) as amended by (S.I. 386/2015)

7.5.1. The proposed long sea outfall is located 930 metres from the coast and as such is located at coastal waters under Article 1(7) of the (Water Framework Directive). The target water quality standards for coastal waters are set out under the above regulations and are summarised below.

Dissolved Oxygen (DO) (percentage saturation) – summer (95 percentile). 80% < DO < 120% (35 psu).

Dissolved Inorganic Nitrogen (DIN) (mgN/l) – good status < 0.25 mg/l (34.5 psu) Median. High status < 0.17 mg/l (34.5 psu) Median.

8.0 Observations and Submissions in relation to the SID Application

8.1. Observations from Prescribed Bodies

8.1.1. <u>Department of Culture, Heritage and the Gaeltacht Development Applications Unit</u>

- In relation to underwater archaeology, it is stated that mitigation measures set out in the EIS should be implemented in full.

- With regard to nature conservation, it is stated that mitigation measures should aim to avoid impacts on the Buckroney – Brittas Dunes and Fen SAC (Site Code: 000729). This should be achieved by avoiding the impact at sources in the first instance. It is also suggested that the Board consider that, in the case of granting planning permission, a condition requiring construction activity to be temporarily suspended for the Long Sea outfall should wind and wave conditions be such as to contribute to high levels of sediment suspension as a result of the construction due to extreme weather events. The suspension of construction activities in such circumstances will ensure that the integrity of the SAC is protected.
- In terms of bats, a derogation licence has been issued to the applicant in respect of Arklow Bridge only. This derogation licence expires on 31st March, 2019. Works will not be completed at this stage therefore a further derogation licence will be required. All mitigation measures with regard to bats as set out in Section 5.11.5 of the EIS should be carried out in full.
- Trained marine mammals observers (MMO's) using standardised data forms must be provided. All other mitigation measures set out in the NIS must be implemented in full.

8.1.2. Submission from Transport Infrastructure Ireland

Transport Infrastructure Ireland have no objections to the traffic analysis undertaken in the EIAR. Any recommendations contained in Chapter 7 should be included as conditions where the Board are minded to grant planning permission for the proposed development.

8.1.3. Health Service Executive Submission

- The HSE submission notes that the construction phase is to last c.4 years while the 24/7 tunnelling is to last for 1 year. This has the potential to cause severe noise and dust problems for residents in the area. The submission states that "the measures outlined in the EIAR to combat air and noise nuisance is, so far as possible satisfactory". A site representative should be

available to deal with noise and air complaints. A pollution management plan should be drawn up outlining concrete action where standards are breached.

- All unscheduled out of hours works must be communicated to residents with contact numbers etc.
- It is noted that rehousing is included as a possible option in a worst-case scenario. This option should be outlined in detail and communicated clearly to affected residents prior to construction.

8.1.4. Submission by Inland Fisheries Ireland

- The Avoca River is identified as "Good Ecological Status"[1] due to the presence of four indicator species Atlantic Salmon, Brown Trout, European Eel and River Lamprey. All treated discharge must comply with the Surface Water (Amendment) Regulations (2015) and the Bathing Water Regulations (2008).
- All mitigation measures should be put in place as outlined in the EIAR. All construction works shall be in accordance with the Construction Environmental Management Plans (CEMP) specifically to ensure the control of sediment and silt.
- Recommendations are made in respect of storage, treatment and dispersal of soils and other waste. Recommendations are also made in respect of any use of bentonite and pile driving.
- A method statement with the Inland Fisheries Ireland should be agreed in respect of construction works.

8.1.5. Submission by the Department of Communications, Climate Action and the Environment (Geological Survey Ireland)

- The Geological Survey of Ireland (GSI) records do not show any county geological sites within the vicinity of the proposed site and therefore the proposal is unlikely to impact on such sites.

[1] The Board will note that the IFI submission appears to be referring to status up-stream of the Arklow Bridge.

- The GSI would appreciate copies of reports detailing any site investigations carried out. Where appropriate it is requested that a digital photographic record of new excavations be provided. This data would be added to the GSI database.

8.2. **Observation from Third Parties**

8.2.1. Observation from Sophie Meeres

This observation stated the following:

- The wastewater treatment plant should not be located at a prime waterside site within the town. The proposal did not adequately assess alternative sites including the Roadstone quarry site to the south of Arklow. The Roadstone site includes large areas of rock close to the sea. This site would also be beneficial in keeping traffic out of the town.
- The Arklow Local Area Plan seeks an ambitious waterfront strategy for the town, emphasising the need for leisure and cultural uses. There is extraordinary potential for the area of the town and it is argued the incorporation of three massive buildings behind five-metre-high sea defence walls and security defences does nothing to increase or improve access to the site or the area around the site. The proposal does nothing to increase or improve access to the shoreline. It ensures that the north beach cannot be used by pedestrians. The significant enlargement of the revetment area will result in reducing the access to the sea shore at the southern end of north beach.
- It is suggested that the architect's elevations submitted as part of the application do not properly depict the proposed revetment area.
- The proposed development is unsympathetic to the maritime heritage associated with the sea front of Arklow.
- The assessment has disingenuously evaluated the visual impact arising from the massive structures. Furthermore, the visual impact does not assess the impact in the context of adjacent sites which would be redeveloped at some future date. The proposed three buildings on site are much bulkier in nature

and scale than the existing wall board factory. The proposal will effectively block views of Arklow Rock from the north beach.

- The photomontages do not adequately reflect the visual impact of the proposal. The chosen massing of the buildings has not been adequately justified. There are no fully rendered images of the proposed facades. The removal of derelict buildings obscures the true impact arising from the development. The residents asked for the buildings to be sunken into the ground. However, these requests were ignored. Sunken buildings offer an opportunity to provide play areas and amenity/parkland areas/rooftop gardens on the buildings in question. The building will obstruct the permeability between the North Quay, the park adjacent to the north of the site and the seaside walk.
- The existing wallboard factory with its 45-metre-high chimney is an iconic building within the town. The proposed building should make reference to the existing building form inherent on site.
- The height and scale of the revetment around the site will create a poor urban space.
- The area in which the site is located is subject to erosion and the current revetment area is not fit for purpose. The opportunity to extend the current seaside (top of the wall) walk from north beach to North Quay should not be missed and must be incorporated into the scheme.
- The buildings proposed while interesting, do not properly relate to the coastal area.
- Care must be taken to ensure that natural habitats on either side of the Avoca River are not destroyed during the works undertaken.
- Care must be taken to ensure that no historic monuments including Arklow Castle and Arklow Bridge are affected by the proposal. The Alps SWO tank is proposed to be located close to the former castle. It is also stated that the Alps is an important ecological natural habitat.

8.2.2. <u>Submission from Arklow Marine Services</u>

This submission was made by Frank O'Gallachóir Town Planning Consultants. The submission is summarised below.

- The appellants are ship builders and ship designers and general marine engineers.
- There is no objection in principle to the construction of the WWTP but there must be emphasis on protecting and facilitating the operation of commercial enterprises adjacent to the proposed plant.
- There is no reference to the extant permission for eight retail units and 50 apartments granted under Reg. Ref. 15/857 in October 2015. This indicates that there is no serious consideration given to the impact of the proposal on surrounding residential amenity.
- The need for access to the appellant's property needs to be maintained at all times, particularly for large boats accessing and egressing from the site. The width of the access to the boatyard is not mentioned or considered in the traffic impact assessment.
- Concerns are expressed that the design of the administrative building which is directly opposite the appellant's site will not be suitable and that more suitable external treatments are required in this regard.

The appellant considers the following mitigation measures are necessary in dealing with the application.

Enabling access for large vehicles.

- The requirement of a sweep path analysis in and out of the observer's premises.
- A more domestic style elevational treatment on the administration building.

8.2.3. Submission by Peter Byrne

Mr. Peter Byrne is a resident of No. 4 Harbour Road.

- His submission raises serious concerns regarding the lack of constant monitoring in respect of vibration and noise at the dwellings adjacent to the works to be undertaken. It is suggested that such monitoring should at least

be on a par with the monitoring proposed to be undertaken for the works relating to Arklow Bridge.

- It is stated that previous works undertaken by Irish Water on Harbour Road resulted in €1,000's of damage to property along the road.
- There are objections in relation to the proposed tunnelling which is to take place on a 24-hour basis, 7 days a week. Mr. Byrne requested that residents would be able to review and monitor noise levels to ensure that they are in compliance with specified limits.
- The submission raises concerns in relation to the expected rise in flood levels which may occur on the Avoca River. The submission requests to know what protection measures will be put in place regarding flood protection.
- The current emptying of slurry tanks on Harbour Road gives rise to serious odour and effluent problems. The whole area is required to be disinfected. Concerns are also expressed in relation to rodents and pest control during the construction works.
- There is a requirement for a detailed cleaning schedule for the houses in the area resulting from the works to be undertaken.
- There is a requirement for designated parking for residents in the area.
- The long-term construction works will have a series adverse consequence for the value of houses in the vicinity of the proposed alignment.

8.2.4. Arklow/Ferrybank Developments Limited

- This observation was submitted by Kiaran O'Malley Town Planning Consultant on behalf of the observers, the details of which are summarised below.
- It is stated that the appellants own the land to the immediate south-west of the subject site. A small portion of the site located on the north-east and indicated in green and marked "Y" in the map appended to the appellant's submission, is according to the submission, not in Irish Water's ownership. These lands have not, according to the submission, been the subject of temporary or permanent acquisition orders.

- It is noted that the observer's site had the benefit of planning permission for 118 residential units. An application for extension of duration of permission was refused due to its non-compliance with more updated National Guidelines in relation to Apartment Developments. The proposed wastewater treatment plant presents a significant threat to the applicant's chance of providing high quality residential development in such close proximity to the subject site.
- The site selection process has not been objective. The subject site has been the preferred location since 2010, four years prior to the official embarkation of the site selection process. The site selection process has systematically ignored the potential impact of the proposal on future residential development of adjoining lands. In fact, the site assessment process included the appellant's site for the purpose of site selection. However, it did not consider the appellant's site as a separate entity and as such, did not assess the impact of the development on the site.
- The fact that the appellant's site had, (at the time of the site selection process) planning permission for 118 apartments was not considered in determining the most appropriate site for the proposed wastewater treatment plant.
- There is no mention of the wastewater treatment plant as being a use which is permissible under the zoning objectives relating to the site. The zoning objective does allow for the provision of high quality residential development and it is suggested that the proposed use is incompatible with such residential development. It is suggested that the addendum to the local area plan which permits a wastewater treatment plant constitutes an afterthought. It is contended that it is merely a response to An Bord Pleanála's identification of this zoning issue during the pre-application consultation, on the grounds that as it then stood, the proposed wastewater treatment plants would be in non-compliance with the development plan zoning objective.
- The size and scale of the wastewater treatment plant is well in excess of the requirements for the town of Arklow.
- The proposal would have a detrimental and permanent visual impact on the waterfront at Arklow. The substantial warehouse buildings are inappropriate and are akin in size and scale to the incinerator development at Poolbeg in

Dublin. The visual impact would however be even greater because of the site's strategic location in the town of Arklow.

- Noise levels of 60 to 100 dB(A) can be expected during the operational phase. The mitigation measures which will supposedly reduce the predicted noise levels are between 47.5 L_{Aeq} and 45 dB(A) L_{Aeq} at night time level. There is a lack of detail with regard to noise attenuation measures to be undertaken. The appellant's site was not identified as a noise sensitive location as part of the evaluation undertaken.
- The appellants also express considerable concern with regard to odour generation and the potential impact on the redevelopment of the appellant's site. There is no direct or indirect assessment of the impact of odours on the appellant's site.

8.2.5. Submission by Patrick and Patricia Ivory

These observers live at "The Forge" South Quay, near the junction of South Quay and Harbour Road.

- It is argued that the new wall to be built along the riverside as part of the works associated with the interceptor sewer will not be aesthetically pleasing. The River Walk currently is a very popular amenity and important for wildlife.
- The work zone area should be made smaller to accommodate residents parking needs.
- The proposal should not involve the removal of the slipway into the Avoca River in the vicinity of the site, as the slipway forms part of Arklow's rich tradition on maritime ship building.
- The bend in the River Avoca should not be altered; as any alteration could increase or exacerbate flooding.
- The proposed tunnelling and associated works could give rise to significant damage to properties.

- Concern is expressed in relation to the level of monitoring of noise and vibration that will result in the proposed laying of the interceptor sewer and the fact that it will be carried out on a 24-hour basis, 7 days a week.
- The proposed undermines the chance to enhance tourism and attract employment for the area.
- It is suggested that there should have been consultation with residents and affected parties as part of the application and this should have included the provision of a 3D model.

8.2.6. Observation from Elizabeth Kenny and Nichola Kenny

- This submission raises concerns regarding the construction impact which will arise particularly in relation to the laying of the interceptor sewer. It is stated that Irish Water carried out works on the Harbour Road and it resulted in a huge amount of damage in the area including damage to houses which has yet to be rectified. The works undertaken also gave rise to significant dust, noise and disturbance.
- The EIAR submitted with the application acknowledges that there will be adverse impacts on residents particularly along the South Quay.
- The temporary causeway to be constructed along the river will give rise to an increase in flood levels in and around the river area. The diversion of utilities and services as part of the laying of the interceptor sewer could also impact on hydrology and flooding in the area.
- The noise, vibration and dust arising from the tunnelling will make it impossible for residents to live in the area. It is argued that it will result in chronic sleep deprivation.
- Concerns are expressed in relation to odours from the vent stacks.
- The same level of monitoring in respect of noise and vibration which is proposed to take place at Arklow Bridge, should be implemented for the residents of South Quay.
- The works proposed could undermine the structural integrity of houses along the South Quay.

- The chamber tank which Irish Water constructed on the South Quay has been emptied manually, and during the process raw sewage has often been deposited on the roadway.
- The proposed works will result in an infestation of rodents which constitutes serious health threat.

8.2.7. Observation from Arklow Marina Village Owners Management Company Limited

- Concerns were expressed with regard to noise, dust, odour and vibration impacts which will arise as a result of the proposed development. Arklow Marina Village must be a stakeholder and have input into the monitoring process. The Marina Village must be recognised as a sensitive receptor with respect to data collection. Contact details and a clear complaints procedure must be agreed and put in place prior to any commencement of development.
- Concern is expressed regarding the three interceptor tanks (sic) on the North Quay (TSN3, TSN4 and TSN5). In all three instances the location of the interceptor tanks is located very close to the gate entrances to the Marina Village development.
- Concerns are also expressed as to how pedestrian and vehicular access is to be maintained in an out of the Marina Village during the building works, including emergency access. A comprehensive traffic management plan at the Marina Village must be incorporated as part of this development. It is requested that the Mill Road and not the Quay Road be used for HGV vehicles accessing the site during the construction period.
- The Marina Village must be facilitated with a direct link to any designated and appointed communications manager nominated by the applicants.
- With regard to the overall height and scale of the development, it is stated that the proposal has a significant potential to impact on the residential amenities of the area.
- Further details are required with regard to the public park amenity to the north which will comprise of part of the boundary treatment associated with the proposed development.

8.2.8. Observation from the Ferrybank and Seaview Avenue Residents Association

- It is argued that the site is inappropriate as it constitutes a town centre site with significant development potential. It is surrounded by Arklow North Beach, a recreational area to the north and the Avoca River to the south. The site would be better suited to a mixture of commercial and residential units as well as catering for the future needs of the maritime community including maritime wind farm developments. There are more suitable industrial areas which could cater for the wastewater treatment plant and this should be explored. It is suggested that the siting of a wastewater treatment plant on such a beautiful site is as inappropriate as permitting the discharge of untreated effluent into the Avoca River.
- Concerns are expressed with regard to the temporary road being constructed to the north along the seafront. The provision of a new temporary road to provide construction access to the wastewater treatment plant and to reroute traffic along Seaview Avenue, a residential area, is totally incompatible with existing residential and recreational land uses which adjoin the route. The new road will accommodate construction traffic which would give rise to road safety issues and structural issues associated with the housing along Sea Bank Avenue. The additional traffic generated by the temporary road will cause 'traffic chaos'.
- Concerns are also expressed regarding the removal of asbestos from the existing wall board factory on site.
- The proposed temporary road runs adjacent to designated Natural Heritage Area and the proposed temporary road would be detrimental to many species of birds that congregate at this location.
- Finally, this submission argues that the public consultation process undertaken as part of the application was not robust enough and the proposal does not adequately address people's concerns.

8.3. **Submission by Wicklow County Council**

- The report prepared by the Chief Executive of Wicklow County Council is summarised below.

Introduction and Internal Reports

- It states that the report of the Chief Executive was received by the elected members of Wicklow County Council and a presentation in relation to the same was presented to the elected members. While expressing views in relation to the proposed development, the Council did not pass a resolution pursuant to paragraph 37(e)(6). The elected members fully support the submission of the project to the Board. The report sets out details of the proposed development together with details of the site location. The report also sets out details of the planning history relating to the site and the Alps site.
- The report goes on summarises the internal reports prepared in respect of the application which are contained in Appendix 2 of the Council's submission. The Chemist Report contained on file states that the project will help improve water quality in the Avoca River, Avoca Estuary and Irish Sea. The odour and noise control measures specified during the operational phase should be sufficient to protect the community from nuisance.
- In relation to construction, carefully controlled measures should be employed during the demolition, excavation and safe disposal of both contaminated soils and asbestos. Air and noise monitoring requirements and frequency should also be conditioned throughout the construction phase. During the construction work, no discharge of contaminated waters other than that permitted under licence should be allowed. Any accidental discharges or spillages to the environment must be immediately reported to the local authority and IFI.
- The report from the Municipal District Engineer (Arklow) states general satisfaction with the design. The report goes on to set out details of environmental designations in the vicinity of the site making special reference to Natura 2000 sites in the vicinity and Arklow Town Marsh which is a proposed Natural Heritage Area. It is also stated that there is one Seveso lower tier site (Sigma Aldrich Ireland Limited) in the vicinity.
- It is stated that any development on the lands should be assessed against the policies and standards set out in both the Wicklow County Development Plan

and the Arklow and Environs Local Plan 2018 – 2024. The report goes on to outline the relevant objectives in both plans as they relate to the site and the proposal.

Assessment of the proposed development.

- It notes that the current wastewater treatment arrangements for Arklow Town do not involve any treatment of waste and therefore contravene the provisions of the Urban Wastewater Directive. It is noted that both the Wicklow County Development Plan and the Arklow Local Area Plan both identify the fundamental need to upgrade the wastewater treatment facilities serving Arklow. It is noted that the core strategy of the development plan also identifies Arklow as a large growth town which is earmarked for increases in population and employment opportunities. The lack of appropriate wastewater facilities in the town result in a constraint to fulfilling these objectives. It is concluded therefore that the development would accord with the principles and strategic objectives from European to local level.
- In terms of zoning objectives, it is stated that the provision of a wastewater treatment plan is envisaged under the land use zoning objective and it is considered that the proposed development would accord with the zoning objectives for the area.
- The report notes that there is a sense of dereliction associated with the site and its surroundings and the wider area is characterised by an undoubted industrial character. One of the key objectives in respect of the development within the waterfront zone is that it should achieve a high standard of design that respects the unique historical, environmental, visual and recreational amenities of the area and as such any new wastewater treatment plant should have an appropriate high quality architectural design/appearance. It is considered that the modern interpretation of what is, essentially an industrial building would be considered to have a positive impact on the area. It is suggested that the design will read as a modern reflection of industrial uses in this historical industrial area.
- With regard to the demolition of existing structures on site, it is stated that the existing factory is in a poor structural condition and even in the absence of the

current scheme its potential for reuse is unlikely. Therefore, its removal is considered acceptable.

- With regard to the rock armour revetment, it is noted the works have the possibility to give rise to some movement of sediment/spillages. However, having regard to the construction processes and mitigation measures to be employed, it is not considered that the works would have a negative environmental impact. There are no negative visual impacts anticipated. It is noted that the provision of a walkway along the crest of the rock armour was considered by the applicant. However, it was not considered feasible due to health and safety reasons.
- With regard to the interceptor sewer construction, the various works are noted and it is considered that the works to be undertaken would not detract from the setting of Arklow Bridge. The overall works which are deemed an integral part of the Arklow Wastewater Treatment Plant project, are deemed appropriate and subject to compliance with details submitted, it would be acceptable from an environmental point of view.
- The report notes that there are three stormwater overflow outlets being provided. One at the wastewater treatment plant, one at the South Quay/Harbour Road and one at the Alps, where the existing stormwater outlet will be upgraded. The designing of the new stormwater overflows will ensure that spills into the adjoining River/Irish Sea will be dramatically reduced. Currently some stormwater overflows take place in excess of 30 times a year. This would be reduced to seven times as per the designing of the infrastructure. The interceptor sewer infrastructure is considered to be of great benefit for the proposal.
- In terms of odour it is noted that there are a number of potential contributors to odours including the 12 vent stacks along the interceptor sewer as well as the potential sources from the wastewater treatment plant and associated infrastructure. It is indicated however that with appropriate mitigation and treatment, it is considered that there will be no significant negative impacts.
- In terms of traffic, it is noted that the potential for adverse traffic impacts will mainly occur during the construction period (3.5 to 4 years). Traffic

management proposals are considered acceptable in light of the report of the Municipal District Engineer for Arklow. Road closures and road openings are subject to separate consents. Good communications with both the Council and the public will be paramount to ensure that negative impacts from a traffic perspective will be minimised.

- In terms of archaeology, it is noted that the site sits within the boundaries of the Arklow town 'area of archaeological potential'. It is noted in the EIAR that the project will not result in any negative impacts on the archaeology of the area or on river/marine archaeology. All works will be monitored by a suitable archaeologist and this is considered acceptable.
- In terms of noise and vibration, the report notes that the adverse impacts arising from same will be limited to the construction period only. The EIAR indicates that daytime works will be undertaken in accordance with the permissible daytime noise limits for construction sites with lower permissible noise levels outside daytime hours (after 7 p.m.). All rock breaking/fracturing activities and the removal of waste material off-site will occur during regular business hours. The predicted vibration levels will be in compliance with vibration limits for transient vibration as part of the mitigation measures. Furthermore a communications management plan will be prepared which will help ensure that communications with residents and commercial enterprises will be carried out effectively and issues that arise are addressed. The identified mitigation measures together with the short-term nature of the impacts are considered to be acceptable.
- With regard to the interaction of the proposed WWT works with the future Arklow Flood Relief Scheme, it is noted that flooding issues have been examined as part of the EIAR. It is noted that the wastewater treatment plant is within Flood Zone C and therefore has a very low-level risk of flooding. It is noted that works to the Arklow Bridge are to be undertaken prior to the construction of the interceptor sewer in the river, thus ensuring that there is an increase in capacity under the bridge which would mitigate against potential flooding. It is noted that while the Arklow Flood Relief Scheme does not form part of this application, the applicants have incorporated and taken cognisance of the flood relief scheme which is currently in preparation to

ensure that no duplication/retrofitting is required as part of any future flood relief scheme.

- In relation to biodiversity, it is considered that mitigation measures identified in the application are sufficient to offset any material impacts during the construction phase. It is considered that the operational phase will not give rise to any negative impacts and will in fact have a positive impact through providing a higher quality of effluent discharge from the town.
- It is noted that the works will result the removal of the sea farers memorial garden. However, this removal will be temporary and will be reinstated on the completion of the works.
- The report considers that the proposal would result in a significant community gain including the provision of a modern wastewater treatment plant and the elimination of untreated discharge into the Avoca River. The proposal will also result in the replacement of an existing dilapidated industrial unit with a high quality design structure which together with landscaping proposals will improve the public realm.
- Finally, it is considered that the EIAR identifies and describes adequately direct and indirect significant effects of the development on the receiving environment and clearly sets out all measures to avoid, prevent and reduce the impacts of the development together with appropriate mitigation measures.
- Reference is made to the Natura Impact Statement submitted and subject to the mitigation measures incorporated in the NIS, the report concludes that the development will not result in any negative impacts on any Natura 2000 sites in the vicinity.
- In conclusion therefore, the Planning Authority consider that the proposed development will not negatively impact on the environment and would eliminate the current discharge of untreated wastewater into the Avoca River. The proposed development would therefore accord with the proper planning and sustainable development of the area.

- Finally, the report sets out a list of conditions which the Board might wish to consider in the event that planning permission is granted for the proposal.

8.4. Objections to the Compulsory Purchase Order

8.4.1. Objection by Arklow Ferrybank Developments Limited.

This objection was submitted by Kiaran O Malley and Co. Ltd. This objection specifically relates to, a small parcel of land whose ownership appears to be in dispute and plot no. 050 which is located on the south-eastern side of Millbank Road opposite the junction with the Marina Road. It comprises of a linear strip of land covering 0.038 ha. Arklow Ferrybank Developments Ltd are the owners of the adjoining site (Foudi Site) that abuts the WWTP site. The objection relates to
(a) The inclusion of the part of, according to the objector, his land (marked 'Y' and shaded in green on the accompanying map), which has been included within the boundary of the proposed WWTP. It is argued that the parcel of land in question has not been included in the CPO and has not been the subject of a temporary or permanent acquisition as part of the documentation submitted. This is a material error and cannot be rectified without the objector's permission.
(b) It is noted that plot no.50 is to be temporarily required for the duration of the construction works which is anticipated to last between 3.5 to 4 years. It is stated that the objector had previously obtained permission for 118 apartments, only to have the extension of the duration of permission refused for non-compliance with apartment standards. The loss of this land albeit temporarily will impact on the development of this land. The objectors site is zoned, serviced and suitable for development however, the CPO if confirmed, would defer any development until at least 2022.

8.4.2. Objection from Arklow Marina Village Owners Management Company.

This objection was withdrawn during the proceedings of the oral hearing.

8.4.3. Objection by Aldi Stores

This objection was withdrawn during the proceedings of the oral hearing.

8.4.4. Objection from Ms Peir Leonard and Roger Prestage

The objectors live at South Winds, South Quay, Arklow. This submission states that while the objectors are in favour of the WWTP, they are opposed to the CPO placed on the objector's garden. It is considered that such a CPO is unnecessary as all construction works can be incorporated into the road area to the front of the house. The working compound could impact on the objector's privacy and will undoubtedly impact on recreational amenity and children's play areas. There will be no scope for children and neighbouring children to play in the front garden
The provision of a compound to the front of the objector's property will impact plans to extend and expand a home-based pottery workshop at the objector's site.
The proposal will have an adverse impact on the saleability of the objector's house during the construction period.
The proposal will result in a devaluation of the property due to a permanent wayleave and sewage chamber in the front garden. The sewage chamber should be relocated.
The remainder of the submission expresses concern in relation to

- the lack of meaningful engagement with Irish Water.
- the lack of alternative routes considered for the interceptor sewer.
- The lack of information in the EIAR in respect of the tunnelling methods to be employed, the duration of the tunnelling and the proposal to tunnel 24/7.
- The lack of justification for such large working areas for the interceptor sewer construction.
- Concerns are aired throughout the submission in respect of noise and vibration during construction, with specific reference to ground borne vibration and construction noise and the potential impact this can have on people's health, particularly children's health.

- Concerns are expressed in relation to air pollution, odours and dust from the construction works
- Health and safety concerns and road safety concerns are also highlighted, particularly in the context of children playing so close to the construction area
- The works could exacerbate flooding particularly in the objector's front garden.
- Concerns are expressed that the WWPT is too large and will have and will have an adverse visual impact.
- Concerns are also expressed in relation to the loss of historic quay walls.

8.4.5. Objection from Ailish Byrne

This objector lives at River Dale, South Quay Arklow. While the objection states it relates to the CPO, the issues raised in the objection, are general in nature and do not raise any specific issues regarding the compulsory acquisition of land. The issues raised in the submission are briefly summarised below:

- the lack of meaningful engagement with Irish Water.
- the lack of alternative routes considered for the interceptor sewer.
- The lack of information in the EIAR in respect of the tunnelling methods to be employed, the duration of the tunnelling and the proposal to tunnel 24/7.
- The lack of justification for such large working areas for the interceptor sewer construction specific reference is made to working area S16 which is located to the front of the objector's house. A question arises as to why the working areas are of such different sizes and shapes.
- Concerns are aired throughout the submission in respect of noise and vibration during construction, with specific reference to ground borne vibration and construction noise. It is argued that this will have an unacceptable impact on the community.
- Concerns are expressed in relation to air pollution, particularly odours.
- Concerns are expressed that the proposal will affect the value of the objector's home and there will be structural damage done to the house.

- The objector is unhappy about having to access her house through her neighbours front garden. Concerns are expressed in relation to the safety of grandchildren and great-grandchildren who visit the house.
- Concerns are expressed that the proposal may not be able to enjoy her garden for the remainder of her life due to the longevity of the construction works (the submission states that the objector is 82 years of age).
- In general concerns are raised in respect of dirt, small noise and vermin.

8.4.6. Objection from Christine Mc Elheron

Ms Mc Elheron resides and no. 21 South Quay. As in the case of the preceding two objections, the issues raised in the submission are not specific to any specific parcel of land to be acquired but rather raise broader issues in relation to the project. The issues raised in the submission are similar to those referred to above, namely:

- the lack of meaningful engagement with Irish Water.
- the lack of alternative routes considered for the interceptor sewer.
- The lack of information in the EIAR in respect of the tunnelling methods to be employed, the duration of the tunnelling and the proposal to tunnel 24/7.
- Concerns are aired throughout the submission in respect of noise and vibration during construction, with specific reference to ground borne vibration and construction noise. It is argued that this will have an unacceptable impact on the community.
- Concerns are expressed in relation to air pollution particularly odours.
- Concerns are expressed that the proposed sewage works are to be located in the middle of a residential area close to many children and older people and therefore will seriously injure the residential amenities of the area.
- Concern is expressed that children will be in such close proximity to heavy machinery during the construction phase.
- Concerns are expressed that the proposal will give rise to constant fumes, emissions and dust and as such would present a health risk.

- It is questioned whether construction workers will be Garda vetted, working in such close proximity to children.
- The construction activity will result in a loss of green space for recreation.
- The construction phase could give rise to rodent and vermin problems.
- The proposal will seriously affect wildlife in the area.
- The close proximity of houses to vent stacks and sewage chambers will result in a devaluation of property.

Objection of Nicola and Elizabeth Kenny (Dated 12/5/2019)[2]

- This objection specifically relates to plot no. 064 of the CPO.
- Concerns are expressed with regard to noise generation during the proposed construction works outside the objector's house. The anticipated construction works are creating a significant level of stress for the objectors.
- The Board are requested to set clear limits in relation to noise and vibration.
- No information is provided in relation to the tunnelling methods proposed to be undertaken in laying the interceptor sewer. Information provided at the oral hearing demonstrated that it is possible to stop and re-start the tunnelling process in order to safeguard amenities. It is therefore not necessary to undertake tunnelling on a 24-hour basis.
- It is imperative that any temporary rehousing of persons affected by tunnelling operations during the construction phase be properly communicated in advance.
- There are significant concerns that the proposed construction works will disturb rodents and vermin along the river.
- It is not accepted that Irish Water took all reasonable steps to communicate with landowners or landowners' agents during the course of the application.

[2] Nicola and Elizabeth Kenny were afforded an opportunity to make a written submission subsequent to the main CPO Oral Hearing, as Irish Water acknowledged that the objectors may have occupancy rights to plot no.064 to the front of their dwelling house. See pp160-161 of this report for further details.

- The objectors in this instance were only notified of their rights to make an objection the evening before the commencement of the first CPO hearing.
- It is imperative that An Board Pleanála insist on independent surveys being undertaken pre and post construction.
- Irish Water need to make it clear who is responsible (contractor/ liaison officer etc.) for any problems which may arise during the construction works. This point of contact must be maintained throughout the entire process.
- Adequate financial bonds need to be put in place before the development commences.
- A question arises as to whether or not Irish Water will have on-going maintenance rights over the lands post construction and whether or not other statutory bodies will have rights to open the pipeline route - post construction.
- Employees of Wicklow Co. Council suggest that there is no need for tunnelling to be carried out underneath the objector's property.

9.0 **Planning Assessment of Strategic Infrastructure Application**

I have read the entire contents of the file, visited the site and its surroundings on a number of occasions, have had particular regard to the documentation and drawings submitted with the application including the EIAR and the NIS. Furthermore, I have had regard to all the observations contained on file including those submitted by prescribed bodies. I conducted an Oral Hearing where more detailed submissions from both Irish Water and observers were heard in relation to the proposed development and CPO, I consider the following issues to be critical in determining the current application before the Board:

- Principle of Development
- Water Quality and Water Pollution Issues
- Consideration of Alternatives
- Impact on Residential Amenity
- Noise and Vibration

- Odour Issues
- Spillages, Vermin and Past Control
- Dust and Air Pollution
- Zoning Issues
- Building Design and Visual Impacts
- Traffic Considerations
- Flooding and Flood Risk
- Archaeology
- Ecological and Bio-diversity Issues
- Other Residential Amenity Issues
- Lack of Consultation

9.1. **Principle of Development**

9.1.1. The need for a wastewater treatment plant to treat effluent generated by the town of Arklow is unequivocal. This point has been made clearly in the documentation submitted with the application and this point was consistently reiterated throughout the EIAR and other documentation submitted. Observers and objectors acknowledged the need for such critical infrastructure. In fact, not one of the observations submitted by the third parties argued that such wastewater infrastructure was not required. All parties are in agreement that the town of Arklow needs proper wastewater treatment facilities. The fundamental question before the Board in relation to the principle of development is, whether or not an appropriate location has been chosen to facilitate the provision of such wastewater treatment infrastructure.

9.1.2. It has been highlighted in both the statements made to the oral hearing and the information contained in the EIAR that there is a legal requirement for Irish Water to comply with the overarching objective of the Water Framework Directive which seeks to improve water quality in Ireland's river and lakes with the overall objective in ensuring that all waters achieve "good status" at the latest by 2027. The Avoca River

in the vicinity of the existing outfalls has been classified as being of “moderate status”. It is also classified as being at risk of not achieving “good status”.

9.1.3. There is also a legal requirement to comply with the provisions of the Urban Wastewater Treatment Regulations. In accordance with these Regulations, Member States shall ensure that urban wastewater entering the collection systems shall be subject to secondary treatment or equivalent prior to discharge. Currently no such treatment takes place at Arklow and Arklow is recognised as the largest urban agglomeration in the State which does not have any form of municipal wastewater treatment.

9.1.4. The EPA’s most recent Annual Report (at the time of writing) on Urban Wastewater Treatment (2017) lists Arklow, (in Appendix A) as being one of the priority urban areas where wastewater treatment is required. Arklow is also listed as one of the 28 large urban areas that did not meet the EU’s legally binding standards for the treatment of urban wastewater. The witness statement of John Joyce (see statement no. 1 submitted to oral hearing) states that an infringement case has been brought to the Court of Justice of the European Union by the European Commission against Ireland in respect of the discharge of untreated wastewater into rivers and the sea at various locations in Ireland, including Arklow.

9.1.5. There can be little doubt that the provision of a wastewater treatment plant for the town of Arklow will improve water quality in the Avoca River and bring significant benefits in terms of health, environment, recreation for people in proximity to and using the river and would also facilitate economic and social development within Arklow Town and its environs.

9.1.6. The recently adopted National Planning Framework refers in Section 9 to the key national environmental challenges facing the state. Specific reference is made to addressing health risks to drinking water, treating urban wastewater and protecting important and vulnerable habitats. Section 9.4 of the report notes that the EPA consider urban wastewater to be one of the principle pressures of water quality in Ireland and the treatment and disposal of wastewater in an environmentally sound manner is critical for human health. It goes on to note “that urban wastewater treatment plant compliance and remedial actions are therefore a key short-term

priority. In the longer-term capacity issues will need to be resolved to meet the growing demand to 2040 and beyond".

9.1.7. The Irish Water National Water Services Policy Statement (2018 – 2025) states that at a minimum wastewater discharges should comply with standards set out by the EU in the Urban Wastewater Treatment Directive so as wastewater can be collected and treated to an acceptable standard before being discharged back into the environment.

9.1.8. In terms of regional policy, strategic policy PIP3 of the RPG's for the GDA (2010-2022) sets out the requirements involved in improving water quality and wastewater infrastructure. As indicated in the previous section of my report, Table 11 of the RPG's for the GDA identifies "critical strategic projects for wastewater and surface water". Under point 6 of this Table "*the development of a high-quality treatment plant for Arklow Town*" is listed.

9.1.9. In terms of local planning policy both the Wicklow County Development Plan 2016 – 2022 and the Arklow Local Area Plan makes specific references to the need to provide adequate wastewater treatment for the town of Arklow. In the County Plan Policy WI 6 states that "*in order to fulfil the objectives of the core strategy, Wicklow County Council will work alongside and facilitate the delivery of Irish Water's water services investment programme, to ensure that all lands zoned for development are serviced by an adequate wastewater collection and treatment system and in particular, to endeavour to secure the delivery of regional and strategic wastewater schemes. In particular, to support and facilitate the development of wastewater treatment plant in Arklow at an optimum location following detailed technical and environmental assessment and public consultation'.*

9.1.10. The Arklow Local Area Plan 2018-2024 in its section relating to Infrastructure transportation and movement includes Objective IT1 which seeks to "*support and facilitate the development of a wastewater treatment plant in Arklow, at an optimum location following detailed technical and environmental assessments and public consultation*".

9.1.11. It is apparent therefore in terms of strategic planning policy from national level to local level there are a suite of policy objectives in both broad terms and specific terms which would support the provision of a wastewater treatment plant for Arklow.

9.1.12. In conclusion therefore, the argument for a wastewater treatment plant in the town of Arklow is unassailable. It is a requirement under European Law that agglomerations such as Arklow are required to provide wastewater treatment to at least secondary level. Policy objectives from national to local level highlight the need to improve urban wastewater treatment and regional plans, county plans and local plans all specifically identify the town of Arklow as requiring such infrastructure. The provision of a wastewater treatment plant at Arklow will also facilitate further development within the town and will improve the water quality of the Avoca River which will bring great benefits in terms of health, environmental integrity and biodiversity.

9.1.13. The question before the Board is whether or not the proposed project which is the subject of the current application is the most suitable in terms of its location to realise and fulfil the above objectives.

9.2. Water Quality and Water Pollution Issues

9.2.1. Notwithstanding the fact that, of the observations received in respect of the application, none expressed any concerns in relation to water pollution or water pollution issues in respect of the proposed discharge of effluent via a long sea outfall into the Irish Sea[3]. This issue nevertheless needs to be assessed for the purposes of a robust and comprehensive review of the application, as the application was made to the Board in the first Instance and to ensure that any proposal complies with the overarching provisions of the Water Framework Directive; namely to achieve 'good status' in all designated waters by 2027 at the latest. The 930-metre-long sea outfall proposes to discharge treated wastewater into an area which is designated as "coastal water" under the designations assigned in the Water Framework Directive.

9.2.2. In order to ensure that the proposed development is in accordance with the overarching objectives of the Water Framework Directive, the proposal needs to be assessed to ensure it is compliant with the emission limit values (ELVs) set out in the following Regulations:

- The Urban Wastewater Treatment Regulations S.I. No. 254 of 2001.

[3] The submission from the Development Applications Unit suggested mitigation measures to ensure against elevated levels of sedimentation and suspended materials during the construction of the long sea outfall, but the submission did not raise any specific concerns in relation to pollution impacts arising during the discharge of treated effluent during the operational phase.

- The Bathing Regulations 2008 (S.I. No. 79 of 2008).
- The European Union Environmental Objective (Surface Water) (Amendment) Regulations 2015.

Compliance with the Urban Wastewater Treatment Regulations

9.2.3. The Urban Wastewater Treatment Regulations (UWWT Regs) require that all discharges from wastewater treatment plants with a PE in excess of 10,000 must provide secondary treatment and must treat effluent to a standard not exceeding the following:

- BOD 25 mg/l
- COD 125 mg/l
- TSS 35 mg/l

9.2.4. Thus, regardless of the assimilative capacity of the receiving waters, the "end of pipe" discharge is required to ensure that effluent is treated to at least the above standards, prior to being discharged from the wastewater treatment plant. The above Regulations do not provide any guidelines with regards to the methods to be employed in treating the wastewater to the above standards. The preferred option in the case of the Arklow Wastewater Treatment Plant is for the provision of sequencing batch reactors (SBR) tanks. The SBR process provides an activated sludge process within a single tank which involves a number of steps per cycle namely: the filling of the tank with effluent; aerating the effluent to stimulate and populate biomass to conduct the organic breakdown; settlement; and decant the treated effluent.

9.2.5. Mixed liquor will remain in the SPR tank at all times to provide the biomass for the carbonaceous BOD removal process. The proposed method to be employed has been tried and tested in various wastewater treatment plants throughout the country including the Ringsend Wastewater Treatment Plant and has proven capable of treating wastewater to comply with the standards set out in the Urban Wastewater Treatment Regulations.

9.2.6. It will also be a requirement under any Wastewater Discharge Licence issued by the EPA under the Waste Discharge Authorisation Regulations, that any waste water emissions limits would comply with the requirement of the UWWT Regulations. I am

satisfied therefore that the method of treatment to be employed is satisfactory and is capable to treating effluent to secondary standards in order to comply with the parameters set out in the UWWT Regs. All effluent will be subject to appropriate monitoring on a continuous basis. The Board will also note for the purposes of compliance with the UWWT Regs, that there are no designated sensitive waters in the vicinity of the proposed outfall. Furthermore, the Avoca River is not designated as a Sensitive River under Schedule 3 of the Urban Wastewater Treatment Regulations. As such, there is no requirement to comply with the standards set out in the said Regulations in relation to phosphorous and nitrogen removal.

The Employment of Aerobic Granular Sludge Technology (AGS Technology) in the Treatment Process

9.2.7. During the proceedings of the oral hearing I put a number of questions to Irish Water with regard to the employment of aerobic granular sludge technology. This new technology is currently being employed at the Ringsend Wastewater Treatment Plant (see application Reg. Ref. 301798 recently granted planning permission by the Board). Irish Water in its response to the questions posed, indicated that while it may be possible to employ such technology in the case of Arklow, and consideration for the employment of such technology may occur at some future date, as it stands it is not considered prudent or necessary to employ this technology at the Arklow Wastewater Treatment Plant. The inclusion of such technology in the case of the Ringsend Wastewater Treatment Plant was considered appropriate because of the limited footprint of the existing wastewater treatment plant and that there was no possibility of expanding beyond the boundaries of the existing site at Poolbeg. Furthermore, Irish Water stated that the AGS Technology is to be employed as a most cost-effective alternative to tunnelling a long sea outfall a distance of 9 kilometres out into the Irish Sea. Lastly, Irish Water informed the oral hearing that one of the principal advantages of AGS Technology was its ability to reduce nitrogen and phosphate levels in the treated effluent. This is particularly important under the Ringsend Treatment Scheme as the River Liffey is designated as a sensitive water as per Schedule 3 of the Urban Wastewater Treatment Regulations and as such there is a requirement that any effluent discharge would comply with the limits set out in the said Regulations in relation to phosphorous and nitrogen. No such limits on nitrogen and phosphorous are required in the case of the Arklow Wastewater

Treatment Plant, the need to employ AGS technology becomes less critical. I am satisfied based on the details set out by Irish Water in the oral hearing in relation to AGS Technology that the employment of such technology may not be necessary in the case of the current application before the Board.

Compliance with Bathing Water Regulations

9.2.8. With regard to compliance with the Bathing Water Regulations, there are two beaches in the wider area which are designated as bathing waters; Clogga Beach which is located approximately 3 kilometres to the south of the proposed outfall and Brittas Bay which is located c.5 to 8 kilometres to the north of the outfall.

9.2.9. The target bacterial water quality standards for bathing waters are as follows:

- E-coli less than 250 cfu/100ml (excellent quality) and
- Intestinal enterococci (IE) less than 100 cfu/100ml (excellent quality).

9.2.10. Because of the relatively high level of bacterial contamination in the treated effluent, E-coli and IE offer the most potential threat to bathing waters.

9.2.11. Bacterial water quality data both beaches are set out in Table 15.7 of the EIAR. The table indicates general compliance with the standards set out above. Of the 18 samples analysed at both beaches between 2016 and 2017 only one exceedance of the standards was recorded at Clogga Beach on the 5th September, 2016. There are no exceedances recorded at Brittas Bay during this period.

9.2.12. Details of the model dispersion analysis are contained in Appendix 15.2 of the EIAR. The hydrological simulations for the proposed new long sea outfall indicate and assess the anticipated dispersion plumes under various tidal conditions. The predicted 95 percentile bacterial concentrations arising from the proposed c.900 metre-long outfall indicate that both E-coli concentrations and IE concentrations at the beaches in question, that can be directly attributed to the outfall, to be less than 5 cfu/100ml. This indicates that the proposed outfall would result in the effluent discharge being adequately assimilated so as not to undermine the continued achievement of excellent status at both beaches for E-coli and IE. The assimilation modelling exercises also indicate that the proposal would result in a significant improvement in coastal IE and E-coli concentration over current practices of discharging untreated wastewater into the Avoca River.

Compliance with Surface Water Regulations

9.2.13. With regard to compliance with the parameters set out in the Surface Water Regulations, as already mentioned the proposed outfall is located within designated "Coastal Waters" as per the classification assigned under the Water Framework Directive. The critical target value parameter for such waters under the Surface Water Regulations is Dissolved Inorganic Nitrogen (DIN) (see Table 9 of S.I. 272 for details of the physical/chemical conditions supporting the biological elements). The standards set out in the Regulations for DIN is less than 0.25 mg/l (median) (34.5 PSU)[4], for good status and less than 0.17 mg/l (median) for high status. BOD, SS total ammonia or MRP have no specified parameters or limits in the said Regulations for designated coastal waters.

9.2.14. Again, the hydrodynamic model simulations indicate (see Fig. 4.19 of Appendix 15.2 of the EIAR) that the DIN mixing zone envelope is calculated to extend approximately 200 metres to the south of the proposed outfall on the neap tide and about 100 metres to the south of the outfall on the ebb tide. Both simulations indicate that the mixing zone will have an overall width of approximately 40 metres. Median concentrations of DIN in the vicinity of the diffusers will quickly dissipate to below 0.25 mg/l therefore ensuring that the limits for good quality status for coastal waters are met in the area beyond the initial mixing zone. As in the case of E-coli and IE, discharge at the proposed outfall represents a significant improvement in terms of DIN concentrations in water along the coastal area than is the case under current discharge practices.

9.2.15. Therefore, in terms of water quality, I am satisfied, based on my assessment of the hydrodynamic simulation contained in the EIAR, that the proposed wastewater treatment plant will result in a discharge of effluent that will not only be in compliance with the parameters and ELVs in the various Regulations set out above, but that the proposed development will result in a significant improvement in river water quality and in coastal water quality along the coast in the vicinity of Arklow Town.

[4] PSU refers to practical salinity units anything in excess of 34.5 psu refers to saline waters. The long sea outfall c.900 metres from the coast will discharge into saline waters.

9.3. **Considerations of Alternatives**

Alternative Sites

9.3.1. A major issue raised in the various observations submitted, was that the subject site proposed to accommodate the wastewater treatment plant was inappropriate for a number of reasons including:

(a) The site could hinder the development potential of adjoining sites particularly as adjoining sites (and the subject site) are governed by the zoning objective to provide for the development and improvement of the waterfront zone and it is argued that the proposed development is incompatible with this land use zoning objective.

(b) The proposed development is too close to the town centre and will have an adverse visual impact on the town and will give rise to adverse amenity impacts for residents and visitors of the town.

(c) That there was a perceived bias in the site selection process which favoured the subject site.

(d) The observation by Sophie Meeres both in its written submission to An Bord Pleanála and the evidence presented in the oral hearing suggest that there was insufficient investigations to alternative sites particularly outside the town centre. Particular reference is made to the potential suitability of the Roadstone quarry site to the south of Arklow Town.

9.3.2. In respect of alternative sites, as required under the EIA Directive, the applicant is required to carry out an evaluation of “reasonable alternatives”. It does not require the developer to carry out an evaluation of every single potential site in the wider area which could possibly accommodate a wastewater treatment plant. Nor is it a requirement that the applicant carry out a ‘mini-EIA’ on each and every site considered.

9.3.3. I am satisfied (see separate section of my report below in respect of the EIAR submitted) that the EIAR prepared in respect of the application included a reasonable evaluation of alternatives in Chapter 3. The methodology involved in selecting the preferred site is also set out in the evidence of Mr. Michael Tinsley at the oral hearing (Submission No. 3). The evaluation included a Phase 1 Site

Selection Report prepared in 2014 by Byrne Luby and PH McCarthy. It reviewed all available suitable sites in Arklow and the area surrounding Arklow and, at the end of the preliminary screening assessment, 10 sites were shortlisted. None of these sites included the Roadstone site to the south of the town. As a result of further screening and assessments three sites were determined as being most suitable. The Phase 1 evaluation process was subject to non-statutory public consultation and the number of sites was expanded to five. The public requested Irish Water to include the possibility of discharging into the Avoca River and this resulted in the re-inclusion of two formally discounted sites namely the IFI/Sheldon Abbey site and the Kilbride site.

9.3.4. A Phase 2 Site Assessment was then undertaken and published in May 2015. The Phase 2 assessment was based on a qualitative process which assess the performance of each of the alternative land parcels, transfer pipeline routes and outfall locations against a range of environmental, technical and economic criteria which is set out in Appendix 3.1 of the EIAR and is summarised in Section 2.2.3 of the witness statement of Mr. Tinsley. On foot of this further multi-criteria analysis the Ferrybank (old wallboard factory) site was identified as being the emerging preferred site for the wastewater treatment plant with both the Kilbride site and Sheldon Abbey (IFI site) having been identified as viable alternatives. Again, a non-statutory public consultation on Phase 2 of the site selection process was undertaken by Irish Water over an 8-week period between May and July, 2015. As part of the pre-application consultation with An Bord Pleanála, and on foot of advice from An Bord Pleanála, Irish Water undertook further consultation with Wicklow County Council Planning Department and the EPA regarding the location of the proposed development.

9.3.5. The site selection process arrived at the conclusion that the old wallboard factory offered the following advantages:

- Proximity to load centre which would result in lower operating costs and significantly lower carbon emissions.
- Utilisation of a brownfield site.
- Proximity to marine discharge.

9.3.6. I consider that the evaluation of alternative sites undertaken by Irish Water and presented in the EIAR appears to be objective, robust and comprehensive and also included non-statutory consultation to help inform the process.

9.3.7. With regard to the Roadstone site, evidence presented by Ms. Sophie Meeres suggested that this site was available for sale, however this contention has not been supported by any evidence. The Roadstone site is a private site, owned and run by a commercial quarry operator. There is no evidence to support the contention that this quarry is coming to the end of its natural life. When asked to comment on this during the proceedings of the oral hearing, Mr Fergal Keogh on behalf of Wicklow County Council confirmed that there was no evidence that the Roadstone quarry operations on the subject site were coming to an end. Mr. Keogh further stated that during the economic downturn, production activity at the Roadstone quarry reduced significantly and this has resulted in an extension of the life of the quarry for the purposes of extracting aggregate. Furthermore, there is nothing to prohibit Roadstone at some future date to seek permission to extend the life of the quarry or physically extend the boundary of the quarry. Any such application would be determined on its merits and in accordance with the proper planning and sustainable development of the area.

9.3.8. A submission made on behalf of Arklow Ferrybank Developments Limited suggested that the site selection was biased on the grounds that an extant permission on the Arklow Ferrybank Developments site was overlooked during the course of evaluating alternatives and that the old wallboard site had already been identified as the preferred site prior to any initiation of the site selection process prior to 2014.

9.3.9. In relation to the first issue Irish Water acknowledged that the extant permission for the mixed-use development on the Arklow Ferrybank Development site (Foudi Limited) was missed during the initial site selection process. But Irish Water point out that this permission expired in 2016, and as such if a new site selection process was carried out, the expired planning permission would have had no material impact on the outcome of the site selection process.

9.3.10. With regard to the argument that the preferred site had already been predetermined prior to the formal site selection process, it appears that this assertion was predicated on an article contained in the Wicklow News dated May, 2017 which

erroneously states that "*Irish Water confirmed in December, 2010 that the preferred site for the wastewater treatment plant in Arklow is the old gypsum wallboard factory on North Quay, Arklow"*. Irish Water state that the article should read December, 2015 instead of 2010. The Board will note that Irish Water did not come into existence until 1st January, 2014 therefore Irish Water as a legal entity was not in a position to confirm any preferred site in December, 2010. Again, I refer the Board to the witness statement of Michael Tinsley (page 15) in relation to this matter.

9.3.11. On the basis of the information contained in the EIAR as supplemented by the information submitted by Irish Water at the oral hearing I am satisfied that a reasonable robust comprehensive evaluation of alternatives has been undertaken in accordance with legislative requirements. Whether or not the preferred site is in accordance with the proper planning and sustainable development of the area is a separate matter and is evaluated separately under various headings below.

Alternative Technologies

The observation by Ms. Sophie Meeres also expresses concerns that the proposal did not adequately evaluate alternative methods of treatment including more advance technology such as "separated systems, tertiary treatment and constructed wetlands". In response, it is apparent that the EIAR did specifically evaluate alternative technologies as Section 3.4 of the EIAR refers. Various technologies were evaluated including attached growth systems (which include constructed wetlands), suspended growth systems and advanced systems including membrane bioreactors. Each were evaluated against various criteria including the required ELVs set out in the legislation and the cost of construction and operation etc.

This report has already noted that the outfall is not discharging into designated sensitive waters and as such N and P removal is not a requirement in order to comply with relevant legislation. I have further stated that the sequencing batch reactors are undoubtedly capable of achieving the emission limit values set out in the legislation and the treatment proposed therefore is adequate and is capable of legally complying with the requirements of the Urban Wastewater Treatment Regulations. Diffusion and dispersion rates at the outfall will also ensure that any discharge can easily comply with the requirements and limits for coastal waters set out in the Surface Water Regulations. The hydrodynamic marine dispersion

modelling undertaken as part of the EIAR adequately demonstrates this. On foot of my evaluation therefore there is no requirement or necessity to employ more advance methods of wastewater treatment at the plant.

Alternatives for the Interceptor Sewer

One of the observations submitted (see submission by Christine McElheron) expresses concerns that the location of the interceptor sewers along the banks of the Avoca are inappropriate, primarily on the grounds of their proximity to commercial and residential development within the town centre. The amenity impacts arising from the construction activity and to a lesser extent the operational impacts (primarily odour vents) are considered further below in my report. I note that the interceptor sewer route options were considered and evaluated in Appendix 3.2 of the EIAR (see Volume 4 (Book 1 of 7) of the EIAR). The location of the route for the interceptor sewer would in my opinion appear to be patently logical, in that the interceptor route should be optimally located to intercept flows of the existing discharge into the river at their end point. To locate the interceptor sewer along any other route further out from the quays would involve extensive rerouting of existing sewers within the town in order to be intercepted by a new collection sewer. This would give rise to even greater levels of construction activity along route corridors in the town centre which would likewise be in close proximity to residential and commercial premises. As pointed out in the witness statement of Mr. Aidan McCarthy at the oral hearing (see Submission No. 4, page 4) where it states "*given the topography of Arklow and the termination of all existing outfalls at the river, the areas along the north and south banks of the Avoca River are considered the only viable location for the proposed interceptor sewers*". I would be in full agreement with the above conclusion.

9.4. Impact on Residential Amenity

9.5. Introduction

9.5.1. A wide range of issues were raised both at the oral hearing and in the written submissions regarding the potential adverse impact on residential amenity, primarily through the construction phase, but also during the operational phase of the development. These issues are assessed below.

9.5.2. Significant concerns are raised in relation to noise and vibration impacts arising from construction activities, and in particular the construction of the interceptor sewers along the Riverside Walk and the North and South Quays of Arklow Town. Concerns are also expressed in relation to traffic impacts, and in particular, traffic diversions resulting from the temporary closure of public thoroughfares during the course of the construction activities.

9.5.3. The proposed new interceptor pipeline has been developed on a 50-year design horizon and have been designed to prevent 'out of sewer flooding' in accordance with standard requirements. The depth of the pipeline varies significantly along the alignment to ensure that all connection points with the existing overflow pipes are intercepted. The depths also seek to ensure that the pipeline passes under existing utilities such as gas, telecoms and electricity. Finally, the depths of pipes are predicated on conveying flows by gravity to the wastewater treatment plant which eliminates any requirement for pumping stations along the river. Pumping stations attract significant energy requirements and can in themselves be a potential source of noise and odour generation. Two methods of construction are proposed along the alignment of the interceptor sewer. The more westerly section of the interceptor sewer south of the river i.e. between the Alps and Arklow Bridge and the South Quay area to the immediate east of Arklow Bridge are to be constructed by open cut trenches in which the pipework will be installed. In general pipeline depths along this section of the interceptor sewer will range between 2 and 4 metres. Site investigations also indicate that existing ground conditions are most suited for completing the work by open cut trench technique.

The method of construction for the interceptor sewer at the eastern end of the South Quay and the North Quay will be undertaken by tunnelling pipeline depths along these sections of the interceptor sewer range from 5 to 14 metres. Evidence provided by Mr. Aidan McCarthy on behalf of Irish Water at the oral hearing stated that it is considered good engineering practice to avoid pipeline installation by open cut trenches for excavations in excess of 4 to 5 metres.

9.5.4. An array of concerns was raised by observers with regard to the proposed methods of construction involved in the provision of the interceptor sewer and these are summarised and assessed below:

- Noise levels arising from the construction of the interceptor sewer are considered to be unacceptable for residents in the vicinity of the proposed sewer.
- The baseline modelling undertaken in the EIAR is considered to be flawed.
- There is a requirement that all noise generation, both airborne and ground borne would be monitored on a continuous basis throughout the construction works.
- Baseline noise surveys were extrapolated from five-minute survey intervals and this is considered to be inappropriate in establishing a baseline noise environment.
- There are no detailed or accurate predictions of the timescale under which tunnelling is to take place.
- No information is provided regarding the tunnelling methods to be employed.
- No detailed mitigation measures are provided in relation to how the tunnel shafts are to be constructed.
- There are no detailed or accurate predictions of the timescale under which the tunnelling will take place.
- It is suggested that ground borne vibration has been underestimated and An Bord Pleanála are required to set out clear limits with regard to the maximum vibration which can occur.
- The proposal to carry out tunnelling on some 24-hour basis, 7 days a week is unacceptable and could result in chronic sleep deprivation.
- An Bord Pleanála are requested to set out clear mitigation measures in relation to vibration.
- Further details are required with regard to the noise management plan to be put in place during the duration of the construction works.
- Noise sensitive receptors are not clearly indicated in the EIAR.

9.5.5. It is my considered opinion that the concerns raised while absolutely valid, relate to impacts associated with the development which are temporary in nature and

duration. I have argued previously in my assessment that the necessity of having the interceptor sewer along an alignment that intercepts the existing sewage infrastructure at the point of discharge is both logical and necessary. It is inevitable that the construction impacts will give rise to amenity issues such as noise, vibration, traffic, potential environmental risk and potential health and safety issues. However, I would stress that such impacts are temporary and relatively short in duration. This is particularly true in relation to profound impacts as the works to be undertaken in constructing the interceptor sewer will progressively move along the banks of the river so that any construction works in the immediate vicinity of sensitive receptors will occur for a matter of days, notwithstanding the fact that the overall tunnelling works are anticipated to last a year.

9.5.6. Given the unequivocal requirement to provide a wastewater treatment plant to service the town and the need to intercept and collect existing wastewater as it enters the river, any short-term temporary construction impacts should not in my view provide justification for outright refusal of planning permission for the project given the strategic, economic, environmental and legal necessity to deliver such vital infrastructure.

9.5.7. It is nevertheless imperative that the best possible mitigation measures are put in place to ensure that any material impact on the adjoining amenity is kept to an absolute minimum. During the construction phase it is therefore a requirement that any necessary measures to alleviate any potential impact are assessed and implemented in full so as to address, as far as is practically possible, the concerns highlighted above.

9.6. Noise and Vibration – Issues and Methodologies Employed

9.6.1. With regard to the noise methodology employed, the EIAR methodology is based on the following:

- *The EPA (2016) Guidance Note for Noise: Licence Applications, Surveys and Assessments in relation to Scheduled Activities (NG4).*
- *The TII Guidance entitled Good Practice Guidelines for the Treatment of Noise during the Planning of National Road Schemes.*

- *TII Guidance for the Treatment of Noise and Vibration in National Road Schemes.*
- *BSI Standards 5228-1 and 2:2009 plus A1 – Code of Practice for Noise and Vibration Control on Construction and Open Sites.*

Noise Surveys and Predictions

9.6.2. Measurements were conducted at 8 survey locations. Each of these survey locations are indicated in Figure 10.1 of Volume 3 of the EIAR. The co-ordinates of the locations are also presented in Table 10.1 of the EIAR (Chapter 10, Page 3, Book 2 of 3). Surveys were carried out between 7 a.m. and 7 p.m. on April 12th for the daytime baseline environment. 7 p.m. to 11 p.m. on 12th April for the evening time baseline environment and 11 p.m. to 7 a.m. on 13th April for the night-time baseline environment.

9.6.3. It was on this basis that the baseline noise environment was established. It is clear from Table 10.13 of the EIAR that in the case of daytime and evening time surveys, the surveys were undertaken over a period of 15 to 30 minutes at the various locations. The baseline environmental noise survey appears to be fully in accordance with Appendix 5 of the EPA's NG4 Guidelines. These guidelines indicate that the noise metre should be set to record ambient noise levels at 15 minute intervals. In the case of the night-time survey intervals it is acknowledged that at survey location SO4 a 5-minute interval was used to establish a baseline noise environment. I note however that in the case of the other three surveys undertaken at night, the 15-minute interval was adhered to.

9.6.4. I do not consider that the noise methodology employed can be regarded as fundamentally flawed on the grounds that one of the 15 noise measurements undertaken in order to establish the baseline environment was undertaken for a period of 5 minutes as opposed to 15 minutes. Furthermore, it should be noted that the noise monitoring location SO4 is located on the South Quay in the vicinity of TSS2. The Board will note that the scheme is being modified to omit this tunnel shaft and therefore no significant noise and vibration impacts are predicted in the vicinity of SO4.

9.6.5. With regard to noise predictions, the EIAR acknowledges that where construction activities associated with the interceptor sewer and shaft construction are located in

close proximity to noise sensitive receptors, there is a potential for limit values to be exceeded based on a typical worst-case scenario. However, as referred to above, I am satisfied that any exceedances will be of a short-term duration and will only occur when works are located directly adjacent to noise sensitive receptors. Furthermore, the employment of appropriate mitigation will assist in attenuating noise propagation to a more acceptable level.

Ground Borne Vibration

9.6.6. With regard to the issue of ground borne vibration, the EIAR acknowledges that vibration is likely to be generated during piling and tunnelling works. However, the EIAR predicts that any such vibration will comply with limit values. The ground borne vibration levels associated with the interceptor sewer are set out in Table 10.33 of the EIAR. A total of 54 sensitive receptors are identified (residential, institutional and commercial). Only in two instances (Receptor No. 27 and Receptor No. 54) is the predicted peak particle velocity (PPV) anticipated to exceed 1 mm/s. This is well below the vibration limits which are deemed to be acceptable for nearest sensitive receptors. For reinforced or light frame structures such as residential or commercial type buildings, peak component particle velocities of between 15 and 20 mm/s are deemed to be acceptable for transient vibration limits. For continuous vibration limits more stringent levels of between 7.5 and 10 mm/s are deemed to be acceptable. The vibration limits associated with tunnelling are well below these limits. In terms of sheet piling which will be carried out during the river reclamation works, the ppv limits are significantly higher ranging from 2.2 ppv (mm/s) to 6.2 ppv (mm/s) at the nearest sensitive receptors. Again, these are below the permitted limits set out in Table 10.10 of the EIAR.

9.6.7. Furthermore, it is noted that the predicted ground borne vibration levels are an estimate based on BS5228 empirical formula while in practice it is possible that the impact may be lower. Specific mitigation measures are proposed in order to address the impacts from vibrations. These include the fitting of anti-vibration mountings where practicable and incorporating probing to identify harder strata prior to tunnelling. Advanced notice will be given to all residents in the vicinity.

Property Protection Scheme

9.6.8. In relation to the issue of ground borne vibration impacts, the Board may consider it appropriate requiring the applicant to embark on a property protection scheme (PPS). I note that such a scheme was conditioned in the grant of planning permission for the Dart Underground (Reg. Ref. 29S.NA0005). This would involve the owners of all properties in the vicinity of the tunnel and tunnel shafts, perhaps within a distance of 30 metres, would be notified in respect of the proposed scheme. Each property owner would be given an opportunity to have a structural condition survey undertaken at their property. These condition surveys would be undertaken directly in advance of construction and the survey would be presented to each owner at the same time it is presented to both Irish Water and the contractor. The conditioned survey would form the benchmark such that, after the works are substantially completed, any reported damage be it structural or minor cosmetic damage can be assessed against the survey. If determined that the damage has been caused by the construction of the interceptor sewer or other construction works, suitable remedial works would be undertaken to repair the damage. Such a condition was incorporated in Conditions Nos. 13 and 14 of the Board Order in respect of the Dart Underground. I consider that a similar type condition could be included if the Board are minded to grant planning permission for the current proposal in order to allay any concerns espoused by the observers in respect of ground borne vibration. It appears from the witness statement of Mr. Aidan McCarthy and Sinead Carey (Witness Statement No. 4) submitted at the oral hearing that Irish Water would not object in principle to the incorporation of a property protection scheme by way of condition.

9.6.9. Finally, in relation to noise and vibration issues I note that an outline CEMP was submitted with the EIAR under Appendix 5(1) (see Volume 4, Book 1 of 7). Section 6.4 of this Appendix specifically relates to noise and vibration. I am satisfied that the noise and vibration impact arising from the construction phase of the proposed development and, in particular the construction of the interceptor sewer, will be temporary in duration and I am further satisfied that the mitigation measures to be

employed will ensure that the impacts will be acceptable on surrounding residential amenity.

Tunnelling and Tunnelling Methods

9.6.10. With regard to tunnelling and tunnelling methods, an observation submitted to the Board argued that no information has been provided with regard to tunnelling methods nor is there any detail or accurate prediction of the timescale under which the tunnelling is to take place.

9.6.11. In relation to the first issue, it is indicated throughout the documentation submitted that the proposed development will be delivered under a design, build and operate (DBO) contract. These contracts are not unusual and are the Department's preferred method of providing WWTP infrastructure. Thus, it will be up to the successful contractor to set out the final detailed design of the proposed development including exact details in relation to tunnelling methods. It should be a condition of any grant of planning permission that any contractor would have requisite expertise in tunnelling methodology.

9.6.12. Section 5.6.3.4 of the EIS sets out details of the tunnel sewer construction process. It provides an overview to the principles of tunnelling and an overview of the construction of the tunnel shafts as well as the launching of the tunnel boring machine and the pipe jacking involved in initiating the tunnelling process. Details of the management of the excavated soil, ground stabilisation processes and grouting in the annulus between the pipeline and the soil is set out.

9.6.13. As part of the DBO process, it is likely that the tunnelling process may be required to be fine-tuned along certain sections in order to address any specific challenges and circumstances which may arise. It is not unusual that specific circumstances may arise which may involve slight changes to the processes being undertaken, as would be in the case of any largescale construction process. With regard to the duration of tunnelling works, both the EIAR and the evidence submitted by Mr. Aidan McCarthy in his written statement indicates that the tunnelling of the interceptor sewer would take approximately 1 year. Typically works at each shaft location would be approximately 3 months. I am satisfied therefore that Irish Water have provided, in

as far as is feasibly possible, details of the nature and duration of tunnelling activity envisaged to facilitate the interceptor sewer.

24/7 Nature of Tunnelling

9.6.14. A number of observations submitted expressed concerns in relation to the constant nature of the tunnelling to be undertaken in that it is proposed to operate 24/7. The issue of tunnelling on a constant basis for 24 hours, seven days a week was explored in the witness statements presented on behalf of Irish Water and during the questioning and cross examination during the proceedings of the oral hearing. Irish Water have indicated that it is most optimal from the point of view of construction that the proposed tunnel boring machine would operate on a constant basis. It is argued that if the operation was completed in a stop / start manner frictional resistance forces would build up against the outside of the pipeline and at the cutting head of the tunnel boring machine, which would lead to increased thrust forces to recommence tunnelling operations once they had ceased. The recommencement of the tunnelling operations would result in the requirement of larger launch shafts and jacking walls which in turn would result in longer construction durations. The provision of a larger tunnel shaft and launch shafts would have consequential impacts in terms of increased noise and vibration and may also require larger working areas in which to construct the shafts which in turn would require further compulsory acquisition of lands albeit on a temporary basis.

9.6.15. Mr. Bernard Kavanagh, Engineer and agent on behalf of Eilish Byrne and Christine McElheron made reference to the fact that a similar size tunnel was constructed near Dublin Docklands which did not require tunnelling to be carried out on a constant 24-hours basis. When asked about this Mr. Aidan McCarthy on behalf of Irish Water suggested that this tunnelling technique required very specialised lubricants which enabled the tunnel boring machine to recommence on a stop/start basis without requiring larger launch shafts and jacking walls. When asked whether a similar tunnel boring operation could be utilised in the case of Arklow, Mr. McCarthy indicated that the contractor in question may not be available. In addressing this issue, the Board could require through a condition that the boring machine would not operate on a 24-hour basis. However, it was not evident if such contractor could not be procured which could employ the more advanced tunnel boring machine technology including the more advanced lubrication. Furthermore, it would be

inappropriate for the Board to specify that a particular contractor be appointed to carry out works on behalf of Irish Water. The appointment of contractors is a matter for Irish Water and not An Bord Pleanála.

9.6.16. Any continuous stopping and starting of the said boring machine is likely to result in larger launch shafts and jacking walls and also longer construction durations. As already stated this could give rise to greater potential adverse impacts in terms of noise, vibration and traffic diversions during the construction of the interceptor sewers. Irish Water have indicated during the proceedings of the oral hearing the greatest level of noise disturbance will be during the shaft construction therefore, the consequential impact in terms of amenity may be greater if the tunnel boring machine was not to operate on a 24-hour basis.

9.6.17. Irish Water also point out that the design build and operate procurement contract may identify an opportunity to reduce the 24/7 requirement and this will be the subject of significant analysis together with the specification of tunnelling equipment which will be used to complete this operation. Full details of the tunnelling equipment is not known at this stage.

Health Effects of Noise and Vibration

9.6.18. In relation to health matters, I refer the Board to the witness statement submitted by Dr. Martin Hogan. It notes that while noise and vibration effects may give rise to some annoyance during the tunnelling of the interceptor sewers, no significant impact on human health will occur. Specifically, in relation to vibration, the witness statement notes that the TBM will be continuously in motion at any one location and this may have the potential for an adverse effect lasting from some 20 to 25 days. There will be some variation of intensity during this period. It is acknowledged that it is possible that a susceptible individual could be affected over that period of time. The effect will be annoyance, but this will be over a relatively short period of time.

9.6.19. Therefore, while it is up to the Board to consider reducing the operation of the tunnel boring machine so it does not operate on a continual basis, this will undoubtedly prolong the construction phase and may in my view result in a further diminution in residential amenity than that associated with continuous operation of the TBM. In many respects the operational regime of the TBM constitutes a trade-off between

reducing the operation of the TBM on a 24 hr basis thereby prolonging the overall construction phase of the interceptor sewer beyond 1 year.

9.6.20. A number of observations raise more general concerns in relation to vibration and ground borne noise and in particular the need to minimise and monitor such noise. The assessment of the environmental impact arising from vibration and ground borne noise in the EIAR appears to be adequate and comprehensive. However, the EIAR realistically in my opinion acknowledges that the accuracy of the vibration predictions can be indicative only and must be verified by field monitoring and more detailed tests throughout the construction phase.

9.6.21. In advance of critical activities, it should be the requirement of the contractors to work out the specific method statement which would include the preparation of a vibration and mitigation programme which includes field trials. This can be addressed by way of condition in my view.

9.6.22. As mentioned in my introductory section above, it is not possible to eliminate nuisance and negative impacts on residents and commercial businesses of Arklow during the construction phase. However, due to the nature of the works and the duration of the works to be undertaken (3.5 to 4 years) and specifically the tunnelling aspect of the development (which is envisaged to last approximately 12 months), it is important that noise and vibration concerns expressed by the residents both in the written submissions and the oral submissions at the hearing are taken seriously and that any residual environmental impacts are kept to an absolute minimum.

9.6.23. With regard to the requirement for efficient and effective mitigation measures together with rigorous supervision and independent monitoring, I would refer the Board to the Dart Underground decision under Reg. Ref. 29S.NA0005. Specifically, I would direct the Board to Appendix 3 of the Inspector's report in relation to the said project. This appendix contains a report by Dr. Rainer Massarsch entitled "*Assessment of Environmental Impacts in Relation to Ground Vibration and Ground Borne Noise, Geotechnical, Hydrogeological and Construction Related Issues*". I would stress to the Board that the Dart Underground project was of a significantly greater magnitude in respect of the nature of tunnelling proposed. It involved the creation of two twin board tunnels, 6 metres in diameter over a distance of approximately 7.6 kilometres. Furthermore, the tunnel alignments pass directly under

buildings some of which were significantly sensitive to vibration, as many of these buildings related to older buildings and protected structures with historic plasterwork etc. Furthermore, the proposed Dart Underground alignment passed under or close to hospitals and other commercial developments which operated equipment which was extremely sensitive to ground borne vibration. The Board will also bear in mind that ground borne noise and vibration were envisaged to be a significant issue during the operational phase of this project. In the case of the current application any issues regarding ground borne noise and vibration are restricted to the construction phase only.

9.6.24. Notwithstanding the differences between the projects in terms of scale, duration and magnitude, there is nevertheless useful protocols, method statements and best practice principles set out in Dr. Rainer Massarsch report which could in my view be adopted, and where appropriate adapted, to ensure that residual environmental effects are kept to an absolute minimum during the construction of the interceptor sewer. I note that the Board in granting planning permission for the Dart Underground project employed most of the mitigation/best practice methods which were recommended in Dr. Massarsch report. I would recommend that where appropriate, similar conditions would be attached in this instance if the Board are minded to grant planning permission for the proposed development. I have endeavoured in the schedule of conditions attached to this report, to incorporate and adapt the conditions as appropriate. Many of the conditions are of a technical and specialised nature, should the Board deem it appropriate, it could seek an independent assessment or a peer review of the proposed conditions to be attached.

9.6.25. Earth investigation works undertaken for the tunnelled sewers indicate that the ground where tunnelling is proposed to be undertaken is highly permeable comprising of water bearing sands and gravels. While this in itself may give rise to other issues such as groundwater ingress and the need for grouting and bentonite to stabilise the tunnel shafts, the underlying substrata appears to be conducive to assisting more speedy progression of the tunnelling and the nature of the material to be bored should reduce ground borne vibration issues.

9.7. **Odour Issues**

9.7.1. A number of observations submitted express concerns in relation to odour generation during the operational phase of the proposed development. There are two main sources of odour generation arising from the proposed development. Firstly, from the wastewater treatment plant and secondly from the ventilation shafts proposed at intervals along the interceptor sewer.

9.7.2. Currently there is no general statutory odour standard in Ireland. Guidance from the UK[5] recommends that odour standards should vary from 1.5 to 6 OU/m^3 as a 98 percentile of 1-hour averaging periods at the worst-case sensitive receptor based on the offensiveness of the odour with adjustments for local factors such as population density.

9.7.3. Table 3.1 of the Draft Odour Emissions Guidance Note (Air Guidance Note AG9) published by the EPA, ranks processes involving septic effluent or sludge as being the most offensive and for this reason an indicative criterion of 1.5 OU/m^3 limit is recommended. By definition, 1 OU/m^3 is the detection threshold of 50% of a qualified panel of observers working in an odour free laboratory using odour free air as the zero reference. As such 1 OU/m^3 is barely detectable.

9.7.4. Section 9.2.5.1 of the EIAR indicates that detailed air dispersion modelling was undertaken in accordance with EPA Guidance. In terms of the wastewater treatment plant, the main sources of odour have been correctly identified in my opinion and are as follows:

- The inlet pump sump.
- The stormwater holding tanks.
- The inlet works incorporating the screenings and the grit disposal skips.
- The sludge holding tanks.
- The sludge thickeners.
- The sludge dewatering and dewatered sludge skips.
- The supernatant sump.

[5] Odour Guidance for Local Authorities Defra March 2010

9.7.5. All odour emissions from the above listed storage and processing areas will be subject to odour treatment. The odour treatment unit will comprise of biological and carbon filters and the treated air will be discharged through a stack 17.5 metres high and 600 mm in diameter from the inlet works building. It is estimated that the emission rate from the stack would incorporate an odour concentration of 1,600 OU/s. It is not proposed to treat the odour from the vents along the interceptor sewers. However, effluent within the interceptor sewers will be free flowing and this should mitigate against any potential septicity in the sewage which would give rise to greater odour emissions. The EIAR has assumed an emission rate of approximately 700 OU/s to be discharged via a vent 330mm in diameter 7.6 metres in height.

9.7.6. Modelling results for the inlet works and the process building vents suggest that the highest predicted ground level concentration of odour units directly derive from the wastewater treatment plant at the nearest receptor (identified as being approximately 100 metres away) would be 0.51 OU/m^3. This constitutes approximately 16% of the limit value of 3.0 OU/m^3 are approximately one third of the more stringent limit of 1.5 OU/m^3 at the site boundary.

9.7.7. In relation to the interceptor sewer vents, the modelling results for the highest 98 percentile 1 hour value was predicted to be 0.34 OU/m^3 which is approximately 11% of the limit value of 3.0 OU/m^3 or just over 20% of the limit value with the more stringent 1.5 OU/m^3. Either way the modelling undertaken as part of the EIAR suggests that any odour emissions associated with either the interceptor sewers or the wastewater treatment plant will be significantly below the recommended concentration limits of 1.5 or 3.0 odour units at the nearest sensitive receptors as suggested in both the draft EPA Odour Emissions Guidance Note (AG9) and UK Guidance which recommend the same limits in relation to sewage and wastewater treatment plants.

9.7.8. With the incorporation of appropriate odour abatement technology, I consider that the odour emission rates from the vents and stacks can be achieved. Dissipation and dilution of odour, particularly in a coastal area such as Arklow with higher on-shore winds, would lead to rapid dispersion rates and would result in very low concentrations of odour short distances away from the wastewater treatment plant stack and the air vents. The height of both the stack and the vents will also aid in more efficient dispersion of odours. In this regard the highest predicted ground level

concentrations as indicated in the model undertaken as part of the EIAR assessment would not be unreasonable. The fact that vent stack TSS2 is no longer required along the South Quay which is in close proximity to residential dwellings, would in my opinion further ensure that odour will not adversely affect the amenities of residents in the vicinity.

9.7.9. I note that the modelling undertaken in the EIAR indicates that the highest predicted ground level concentrations associated with the interceptor sewer vents are less than that associated with the wastewater treatment plant notwithstanding the fact that the emission rates associated with the vent stacks are slightly higher than the emission rates associated with the wastewater treatment plant. I also note that the vents associated with the interceptor sewer are at a lower height (7.6m) than the stack associated with the wastewater treatment plant (17.5m). The higher stack should ensure greater dissipation and therefore lower concentrations at ground level. When questioned about this at the oral hearing Ms. Sinead White indicated that the highest predicted ground concentrations at the sewer vents are likely to be lower because of the lower volumes of effluent being transported in the interceptor sewer as opposed to the larger volumes being treated in the wastewater treatment plant at any one time. Furthermore, the lower predicted concentrations were also attributed to the fact that effluent in the interceptor sewer is constantly moving therefore reducing the potential for septicity and associated odour generation.

9.7.10. While this may or may not be the case, the conclusion nevertheless remains, that with appropriate attenuation through odour control units, odour is not anticipated to be a material issue in terms of adversely impacting on residential amenity.

9.7.11. Finally, in relation to this issue, it is stated that odour concentrations emanating from the wastewater treatment plant will be the subject of constant monitoring and this monitoring will be regulated by Wicklow County Council and or the EPA. The EIAR states that monitoring of the odour treatment unit will be undertaken during commissioning and at pre-determined frequencies over the lifetime of the proposed development. Independent performance checks will be carried out in an accredited testing laboratory at quarterly intervals during the first two years of operation to verify the effectiveness of control measures. Based on the above I am satisfied that the proposed development will not give rise to significant odour issues.

9.8. **Spillages, Vermin and Pest Control.**

9.8.1. A number of observations submitted express concerns that the construction works could give rise to increased levels of vermin and pest control. The submission from Mr. Peter Byrne also suggests that any spillages associated with wastewater treatment would also attract unwanted vermin.

9.8.2. In relation to the latter issue, the Board will note that Mr. Byrne's concerns were primarily predicated on the periodic emptying of a storm/sewer retention tank which was located on Harbour Road. The emptying of this tank appears on occasion to have resulted in some spillage of effluent on the roadway. When questioned about this at the oral hearing, Irish Water indicated that with the incorporation of a new wastewater treatment plant, the need for the sewage/storm water retention tank on Harbour Road will become obsolete and will no longer be emptied. Therefore, any potential odour and vermin problems associated with this activity will cease once the wastewater treatment plant becomes operational.

9.8.3. With regard to the issue of vermin and pest control during the construction works, I note the report from the Health Services Executive contained on file did not express any specific concerns in relation to this matter. The witness statement of Dr. Martin Hogan (Witness Statement No. 12) specifically deals with the issue of vermin. Dr. Hogan states that there will be no food source generated during either the construction and the operational phase and therefore the activity on site is in itself unlikely to attract vermin. It is acknowledged that the groundworks during the construction phase may disturb, on a temporary basis, vermin which may be present underground at any location. However, this would be the case with any development that involves any ground excavation works.

9.8.4. There can be little doubt that there are rodents everywhere in the town of Arklow and along the Avoca River. In fact, the riverbank location together with the fact that currently untreated sewage is being pumped into the Avoca River is more likely to give rise to increased numbers of vermin and rodents in the area. And while construction works could potentially displace rodents for a short period of time, it cannot be argued that the construction phase will in any way encourage population growth. In the longer term the cleaning-up of the river with the reduction of raw sewage being pumped into various outfalls around the town will in my view reduce

the potential for rodent infestation. Should the Board consider it appropriate it could ensure that any construction/environmental management plan would include specific measures in order to address pest and vermin control during the construction phase.

9.9. Dust and Air Pollution

9.9.1. Concerns in relation to odour have already been addressed in my assessment above. In addition to the issue of odour, a number of observations also express concern that the proposed development, principally through fugitive dust emissions, could give rise to air pollution which could potentially impact on human health. I would again refer the Board to the submission from the HSE which states that the EIAR has adequately addressed issues in relation to air pollution. The submission made by Elizabeth and Nichola Kenny express specific concerns in relation to the omission of diesel fumes from the tunnelling generator. Section 8.4.2.2 states that a diesel generator or equivalent will be used for powering the tunnel boring machine. An air dispersion modelling assignment was carried out to assess the short-term effects of the emissions associated with the operation of the generator. These are presented in Table 8.9 of the EIAR. The predicted ground level concentrations are within the limits specified in the Air Quality Standards Regulations for Nitrogen Dioxide (NO_2) and Particulate Matter (PM). The EIAR also indicates that additional measures can be used such as increase in the stack height or increasing the exit velocity so as to reduce ground level concentrations.

9.9.2. The joint statement of evidence by Sinead White and Darragh White also notes that the ground level concentrations of both nitrogen dioxide and particulate matter were calculated for a worst-case scenario. The fact that Tunnel Shaft TSS No. 2 is to be omitted from the proposed development will also ensure that emission from the generator in the vicinity of the observer's dwelling will be greatly reduced.

9.9.3. Any impacts on air quality during the construction phase will, according to the modelling undertaken in the EIAR, have a negligible impact on sensitive receptors in North Quay, Harbour Road, South Green and Harbour Green according to Table 8.12 of the EIAR. The modelling undertaken relates to NO_2, PM_{10} and $PM_{2.5}$. Furthermore, the construction phase will be of temporary duration. I am satisfied therefore that the proposal is acceptable in terms of its impact on air quality.

9.10. **Impact of Asbestos Removal**

9.10.1. Initial surveys carried out at the wallboard factory site indicate that there is asbestos within the structure of the buildings to be demolished and removed off site. OHSS Safety Consultants carried out an asbestos demolition survey report as part of the investigations into the scheme (see Appendix 5.3 of Volume 4 of EIAR Book 1 of 7). It notes that the walls and roof of the main wallboard building and stores within the site incorporate asbestos cement sheeting. Asbestos was found in other internal structures throughout the site. The report notes that asbestos containing material are found in many industrial buildings, hospitals, schools and homes which were installed before 2000 and principally from the 1970s to the late 1980s. The Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 to 2010 requires a managed approach to asbestos containing materials. Where there is debris from the installed asbestos containing materials in the surrounding area, it is recommended that this material is removed by environmentally cleaning the area around the materials. Prior to the demolition of the building, asbestos containing material will be removed and disposed of by a competent contractor in strict accordance with Article 15 of the said Regulations. The report goes on to set out detailed survey results and a risk assessment in relation to the demolition survey. The witness statement submitted to the oral hearing by Dr. Martin Hogan also acknowledges that any work on asbestos containing material will be undertaken by licensed asbestos contractors who will work under strict standards and will ensure that no environmental exposure to asbestos occurs.

9.10.2. Section 5.5.5.2 of the EIAR also sets out measures to deal with asbestos containing material. It notes that all asbestos containing material will be extracted from relevant locations and will be required to be double wrapped and labelled before being safely stored in an appropriate protected area. It will be disposed of at an appropriately licensed facility. No other construction activities will occur on site during this phase of asbestos handling on site.

9.10.3. Having regard to the mitigation measures to be employed, I am satisfied that exposure to asbestos would not cause a health and safety risk. The Board will note that many buildings containing asbestos throughout the State dating from the 1970s and 1980s have been demolished and such demolition is required to be in

accordance with appropriate protocols and health and safety measures so as to ensure that the demolition of such buildings do not cause a risk to human health.

9.11. Zoning Issues

9.11.1. Numerous arguments have been made in the various submissions that the proposed development is not compatible with the zoning objective for the site which seeks to "*provide for the development and improvement of the waterfront zone to facilitate the continuation of the existing employment, maritime and port uses and to promote and provide for residential and mixed-use development*". It is argued that the provision of a wastewater treatment plant is incompatible with such zoning objective.

Statutory Plan Making Process

9.11.2. The submissions from Arklow Ferrybank Developments suggests that the incorporation of a statement which seeks to facilitate the provision of a new wastewater treatment plant with an appropriate high-quality architectural design/appearance is an anomaly. The submission goes on to suggest that the inclusion of the final sentence under the WZ zoning description "*appears to be a flagrant abuse of the local area plan review procedures. In response to An Bord Pleanála identification during the pre-application consultation phase of the scheme's non-compliance with the development plan zoning and the core strategy for the county".*

9.11.3. It is an inherent right as enshrined in the provisions of Section 11 of the Planning and Development Act to seek written submissions regarding all or any aspect of the proposed development plan. Furthermore, and specifically under Section 11(3)(c) the Act states that "*in addition to paragraphs (a) and (b) a Planning Authority shall take whatever measures it considers necessary to consult with the providers of energy, telecommunications, transport and any other relevant infrastructure and of education, health, policing and other services in order to ascertain any long-term plans for the provision of infrastructure and services in the area of the Planning Authority and the provider shall furnish the necessary information to the Planning Authority.*"

9.11.4. Irish Water would, as provider of national water and wastewater infrastructure, fall within this definition.

9.11.5. As already mentioned previously in my assessment about alternative sites, the Phase 2 consultation report which was published in December 2015, confirmed that the preferred site for the Arklow Wastewater Treatment Plant is the Old Wallboard factory site at Ferrybank.

9.11.6. It is apparent from the Wicklow County Council website that the timelines involved in developing the Arklow and Environs Local Area Plan 2018, commenced with a pre-draft public consultation with ran from the 12th October 2016 to 11th November, 2016. The pre-draft public consultation period therefore was subsequent to the Phase 2 consultation report in respect of the site selection process for the wastewater treatment plant. Thus the preferred site for the Arklow Wastewater Treatment Plant was determined prior to the commencement of the pre-draft public consultation of the Arklow and Environs Local Area Plan. The draft Arklow and Environs Local Area Plan published in July 2017 included in Chapter 11 details of the zoning land use and action area plans (see page 51 of Draft Area Plan on Wicklow Co. Council website). It is clear from the waterfront land use zoning objective (WZ) that the zoning objective contained in the draft development plan "seeks to facilitate the provision of a new wastewater treatment plant with an appropriate high-quality architectural design/appearance". To suggest therefore that the facilitation of a new wastewater treatment plant along the waterfront of Arklow was incorporated in a somewhat underhanded manner or constituted an afterthought does not stand up to scrutiny having regard to the timelines in respect of both the site selection process and the making of the development plan. As already stated any person including Irish Water, which is a provider of state infrastructure, are entitled to make submissions on any such plan. In fact, the Planning Authority are required to take whatever measures it considers necessary to consult with Irish Water in order to ascertain any long-term plan for the provision of infrastructure and services as per the requirements of Section 11(3)(c) of the Act. Irish Water had confirmed that the preferred site of the Arklow Wastewater Treatment Plant is the Old Wallboard Factory and therefore it is both appropriate and indeed a requirement that such a long-term objective would be reflected in the preparation of any development plan.

Compatibility of WwTP with Zoning Objective

9.11.7. A wider question arises as to whether or not it is appropriate that a wastewater treatment plant be provided along the waterfront which is governed by the zoning

objective WZ, where the zoning objective seeks to provide a range of uses which would result in the improvement of the waterfront zone. These uses include the provision of high quality new residential developments at appropriate high densities. It also seeks to provide new commercial maritime, leisure and tourism facilities which do not undermine the role of the existing town centre.

9.11.8. It is my considered opinion that the replacement of the derelict and unsightly old wallboard factory site with the proposed replacement development would contribute to the improvement of the waterfront zone as envisaged under the waterfront zoning objective. Furthermore, I do not consider that the provision of a wastewater treatment plant would be incompatible with the provision of maritime and port related uses which are permitted within the waterfront zone.

9.11.9. Furthermore, I would assert that there is no reason, based on the assessment in this report, that a proposed wastewater treatment plant would constitute an incompatible use with new residential developments within the waterfront zone. I have previously argued in my assessment above that the incorporation of odour control measures will ensure that there will be no detectable odour issues associated with the wastewater treatment plant and therefore the compatibility of residential development in close proximity to the wastewater treatment plant will not be a material issue in terms of odour generation. Air dispersion modelling undertaken and referred to in Chapter 9 of the EIAR indicates that the wastewater treatment plant would produce less than 1 odour unit outside the site boundary. This level of odour would be barely, if at all, detectable particularly in the context of ambient odours in the area associated with the natural coastal environment.

9.11.10. Figure 9.1 of Volume 3 of the EIS estimates the 98 percentile of 1 hour values of odour in the vicinity of the wastewater treatment plant and it is clear from this model that levels of odour emanating from the wastewater treatment plant will be virtually non-discernible.

9.11.11. With regard to noise levels, the predicted operational noise levels at the wastewater treatment site boundary is indicated in Table 10.38 of the EIAR (see Chapter 10, page 39). It is apparent from the model that the change in noise levels arising from the operational stage of the wastewater treatment plant would result in a cumulative ambient increase of between 2.1 and 2.5 dB(A) L_{Aeq}. The impact of this in terms of

the community impact rating set out in BS4142 would be perceived as 'imperceptible'.

9.11.12. In terms of the size and scale of the wastewater treatment plant the largest of the buildings proposed is the inlet work buildings which rise to a height of 16.5 metres. This is equivalent to a five to six storey residential/commercial building. WZ waterfront zoning seeks to provide a high-quality residential development at appropriately **high densities** (my emphasis). Having regard to various policies contained in the NPF which seeks to secure more compact urban growth including the provision of more infill development schemes, urban regeneration and increased building heights, it is conceivable and indeed appropriate that any new mixed use developments on contiguous sites to the wastewater treatment plant would be five to six storeys in height and therefore would be of a similar height, size and scale to the structures proposed under the current application.

9.11.13. It should also be noted that there is precedent in the area for largescale buildings such as that proposed, not least of which is the existing structure on the site, the main part of which rises to a building height in excess of 20 metres. The Arklow Marine Services building directly opposite the site as well as the various tanks and storage facilities contained on the adjoining Foudi site would also be c.20 metres in height. Therefore, it cannot be reasonably argued in my view that the proposal would be of such a scale and size to result in a development which would create a precedent or could have an overbearing effect on adjoining future development. The size and scale of the development is compatible with the zoning objective which seeks to provide new residential development at appropriate high densities as well as other maritime and port related uses which currently exist in the wider area and are of a similar size and scale.

9.11.14. Following on from the above argument, it can also be inferred that the development as proposed will not have any adverse material impact on the development potential of adjoining sites. I have argued in my assessment above that the proposed development will not result in an incompatible neighbour with regard to amenity issues such as noise and odour. The size and scale of the buildings proposed would be conducive to permitting higher density high quality residential development of a similar size and scale on adjoining sites which, as already pointed out would be fully in accordance with the overall strategic objectives set out in the National Planning

Framework. The waterfront zoning objective specifically seeks to facilitate the extension and continued use of existing employment, maritime and port related uses within the zone. The provision of a wastewater treatment plant may in fact be a more compatible use contiguous to residential development than other types of port related industry which could give rise to significant amenity problems particularly in relation to traffic and noise generation.

9.11.15. Arising from my assessment above therefore, and the fact that it is an explicit and unambiguous statement in the development plan to provide a wastewater treatment plant within the WZ waterfront zoning objective (subject to architectural design and appearance), it is my considered opinion that the provision of a wastewater treatment plant at this location is fully in accordance with the waterfront land use zoning objective and would not in any way inhibit or reduce the development potential of adjoining sites. I consider that subject to the mitigation and attenuation measures to be employed to ensure that odour and noise generation are kept to a minimum, the proposed wastewater treatment plant would be a very compatible neighbour with any future residential and commercial development in the vicinity.

9.12. **Building Design and Visual Impacts**

Design

9.12.1. Some of the observations submitted and some of the comments made during the oral hearing argue that the overall design and scale of the buildings in question are of an inappropriate scale and finishes. Furthermore, it is suggested that the layout of the buildings do not properly engage with the public or public space and do nothing to increase or improve access to the shoreline. It is also stated that the architect's elevations do not adequately depict or represent the buildings in the photomontages.

9.12.2. The architectural approach and design concept relating to the buildings is set out in Section 4.3.4.3 of the EIAR and is further elaborated upon in the witness statement of Mr. Andrew Clancy. It is clear from the WZ land use zoning objectives relating to the site, that any new wastewater treatment plant must incorporate an appropriate high-quality architectural design/appearance. It can be somewhat challenging to provide a necessarily largescale infrastructure/civic structure intervention within an

existing urban area which can be considered sympathetic and appropriate in scale. I have argued previously in my assessment that the site has inherent advantages strategically and economically, in having the WWTP located in close proximity to the interceptor sewers which in turn are optimally located adjacent to the banks of the river in order to adequately collect untreated sewage from the existing outfalls. Therefore, the location of the wastewater treatment plant on the old wallboard factory incorporates some inherent locational advantages notwithstanding the fact it is situated in close proximity to the town centre. The EIS and the witness statement of Mr. Clancy indicate that the architectural approach seeks to positively contribute to the visual environment of Arklow. In attempting to achieve this objective, the design seeks to emphasise and incorporate the industrial history and the maritime dock area of Arklow, while at the same time providing a more contemporary series of civic buildings which reflect the core function and purpose of the structures; namely to treat wastewater. A common theme runs through the external façade of the buildings which are modulated and serrated into large scale louvred planes. It is suggested in the EIAR that the angles of the planes will provide different levels of shelter at different areas and this will allow the building to suddenly change its character depending on ambient light and weather conditions. I consider the overall architectural approach to be interesting and innovative. It clearly reflects the industrial character of the area while at the same time it presents a modern and contemporary style. It is my opinion that the design approach is successful in creating a series of civic buildings of industrial character.

9.12.3. A more pastiche architectural approach which would attempt to conceal the true nature of the purpose and function of the buildings would be inappropriate in my opinion. Notwithstanding this point, the façade treatment does screen the day to day operations of the plant while still presenting a series of buildings that are undoubtedly and unashamedly industrial/ largescale infrastructural type buildings in character which reflects their functionality. The design approach in my opinion represents a successful architectural solution and provides an appropriate compromise between providing a building which accommodates a large infrastructural development but respects size and scale of buildings in the vicinity and it's setting in the docklands/waterfront area. The overall design approach in my

view achieves the requirements of the local area plan to provide a wastewater treatment plant of a high architectural design.

Urban Scale

9.12.4. In terms of urban scale, I consider the overall height and size of the buildings provide an appropriate reference point in which to provide developments of a similar massing, in order to consolidate and provide a more compact urban form in Arklow.

9.12.5. The observation submitted by Ms. Sophia Meeres suggests that there are no properly rendered elevations of the wastewater treatment plant, no physical model has been made available for the public to view and the photomontages do not adequately depict the size and scale of the building and its potential impact on the visual amenities of Arklow Town.

9.12.6. In relation to the rendered elevations, some discussion took place during the proceedings of the oral hearing as to what constituted appropriate rendered elevations. Mr. Clancy on behalf of Irish Water suggested that the figures and illustrations contained in the EIAR (see Figure 4.3, 4.4 and 4.5) together with the detailed drawings submitted and the photomontages adequately provide details of the external elevations and façades. I consider the information provided as part of the application in the form of detailed annotated drawings together with the representations contained in the photomontages are more than adequate for the Board to determine whether or not the proposed development is acceptable from a visual amenity point of view. I would go further to suggest that the level of detail provided in the drawings go beyond that provided as part of a typical planning application to either the Planning Authority or An Bord Pleanála. Notwithstanding this conclusion it is always open to the Board prior to determining the application to seek more detailed information with regard to finishes and rendering.

9.12.7. With regard to the provision of a model the witness statement submitted by Andrew Clancy at the oral hearing stated that the public consultation included a full physical site model of the project at a scale of 1:250 as part of the information used by the design team at the consultations held between the 19th and 26th October, 2017. A more detailed scaled model of the façade was submitted to the Board offices as part of the application. This model is located in the Cathal Brugha meeting room at ground floor level in the Boards Offices. The witness statement of Mr. Clancy also

set out details of all the documentation in relation to the wastewater treatment buildings that were submitted at various scales as part of the planning application. While a full-scale site model of the project was not submitted as part of the documentation to the Board, based on the evidence presented by Mr. Clancy it appears that the information provided by Irish Water at the public consultation process was comprehensive and robust enough to enable the public to form an opinion in respect of the application to be lodged of course if the Board considered it necessary.

Accuracy in Representation of the Buildings

9.12.8. The submission by Sophia Meeres also raised concerns in relation to the accuracy of the information provided in the application documentation with specific references to photomontages. This issue was the subject of some discussion during the proceedings of the oral hearing. However, it was not made clear to the Board how exactly the buildings were misrepresented in the photomontages. In responding to this issue, Mr. Clancy was adamant that having rechecked all the documentation on file, that the drawings and photomontages submitted correctly depict both the revetment and the proposed buildings in the photomontages submitted. I have no reason to doubt the validity of the assertions made by Irish Water. While I cannot categorically assert that the photomontages represent an exact representation of the drawings submitted, it appears to me that the photomontages represent an accurate depiction of the proposed development. I note that during the course of the oral hearing Ms. Meers did not provide any evidence in support of her assertion that the photomontages are inaccurate.

9.12.9. With regard to impact on views southwards from the recreational walkway to the north of the site and towards Arklow Rock, I have argued in my assessment above that the proposed development represents a visual improvement over the buildings which currently exist on site. Also, I refer the Board to the photographs attached to my report and in particular, Photo No. 45 and Photo No. 49. In relation to Photo No. 45 it is clear that the size and scale of the existing wallboard factory along with the Arklow Marine Services building substantially blocks views southwards across Arklow. I would also refer the Board to Photomontage No. 18 submitted with the application (see Volume 3 of EIAR). It is clear from this photomontage that the proposed wastewater treatment plant will not have any appreciable impact over and

above that which currently exists on site and that the views to the south of the coast and Arklow Rock will not be affected by the proposal.

9.12.10. I refer to the suggestion made on behalf of Arklow Ferrybank Developments Limited which intimated that the proposed wastewater treatment plant will have a visual impact similar to that associated with the Covanta Incinerator at Poolbeg in Dublin. I do not accept that this is an appropriate comparison. The Covanta Incinerator at Poolbeg is vastly greater in terms of size and scale to the buildings proposed under the current application. Firstly, the proposed development currently before the Board is broken up into three separate buildings, the largest of which is a mere 16.5 metres in height. The Poolbeg Incinerator comprises of the one large building 57 metres in height and over 200 metres in depth. The current proposal before the Board is therefore nowhere near the size and scale of the Poolbeg Incinerator and therefore will in no way have a comparable impact in visual terms.

9.12.11. Lastly, in relation to visual issues, the submission by Ms. Sophia Meeres suggested that a single low building partially sunken underground could have provided a vast and useful roof space for public infrastructure such as recreational pursuits or could have been used as a rooftop garden and a community space. I consider that the cost of providing a sunken building to accommodate a wastewater treatment plant would have consequential impacts in terms of excavation of material and groundwater egress to the site, increased traffic generation with the transportation of material, increase noise levels through excavation of soils and perhaps breaking of bedrock etc. The cost of providing such a building may also be prohibitive in terms of expenditure from the public purse. It is also not within the remit of Irish Water to provide recreational spaces. Its function as a public body is to provide water infrastructure as opposed to recreational infrastructure. Furthermore, as pointed out in the evidence of Mr. Clancy part of the architectural approach to the development was to provide a significant amount of solar panels on the roof space in order to provide a more sustainable energy source for the buildings in question. The provision of an open recreational area would compromise the provision of these solar panels. The provision of public access to the wastewater treatment plant as a recreational area may also give rise to security and health and safety issues associated with the operation of the wastewater treatment plant. For the above

reasons I do not consider the proposal to sink the buildings into the ground in order to provide active recreational space constitutes a realistic or appropriate proposition.

9.13. **Traffic Considerations**

9.13.1. The main impact arising from traffic will occur during the construction phase. This impact will arise from significant traffic diversions during the construction of the wastewater treatment plant and the interceptor sewer. Construction traffic will mainly consist of HGV traffic which will be generated by the various elements of the project.

9.13.2. Operational impacts are assessed as being negligible and this is a reasonable conclusion in my view. The EIAR estimates (Section 7.5.3) that the projected increases in daily traffic flow arising from the operational phase of the development is estimated at 10 to 20 additional trips, all of which are associated with the wastewater treatment plant site. I would agree with the conclusions in the EIS that this impact will be imperceptible in the context of daily traffic within the town.

Impact on Seaview Avenue and Modifications to Traffic Arrangements on North Quay

9.13.3. With regard to the issue of construction traffic, the observation submitted by the Seaview Residents Association expressed significant concerns with regard to the level of traffic and trip generation proposed along Seaview Avenue during the construction phase of the proposed development. While not submitting a written observation to the Board in the first instance, Bridgewater Shopping Centre submitted an observation during the course of the oral hearing expressing concerns in relation to the proposed traffic diversion arrangements to be employed during the construction of the interceptor sewer along the North Quay and the potential impact which this could have on trading associated with the shopping centre. The submission on behalf of the Bridgewater Shopping Centre at the oral hearing suggested an alternative traffic arrangement, which it is argued, would have a significantly reduced impact on the Bridgewater Shopping Centre. The issue of traffic diversions and its consequential impact on traffic circulation and residential amenity are explored in more detail below.

9.13.4. From the outset it should be highlighted that Irish Water proposed to modify the scheme and details of the modification was set out during the proceedings of the oral

hearing. Irish Water argue that the modification proposed would have a much-reduced impact on traffic circulation and disruption.

9.13.5. It is envisaged that the construction of the proposed interceptor sewer network would be phased in accordance with the progression of works along the riverside walks, South Quay and North Quay. It is not proposed to set out the various diversions and road closures involved in each of the stages proposed involved in the construction of the interceptor sewer. It is sufficient to point out that 13 separate stages are proposed in the construction of the interceptor sewer. While most phases will occur sequentially some stages will occur simultaneously for example Stage D along the South Quays and Stage G along the North Quays. The works associated with the interceptor sewer will also be carried out at the same time as the construction of the wastewater treatment plant.

9.13.6. As mentioned above, during the proceedings of the oral hearing, Irish Water proposed a modification to the proposed traffic arrangements during the construction phase. Under the original proposals it was proposed to construct a single access chamber along North Quay between the Ferrybank Roundabout and the Bridgewater Shopping Centre. This required the complete closure of North Quay to the south of the Ferrybank Roundabout and access to the North Quay and the Bridgewater Shopping Centre would be provided via Seaview Avenue. The traffic arrangements are presented in Section 7.4.3.9 (Stage I North Quay (west of)) and the traffic arrangements are presented in Figure 7.16.)

9.13.7. Evidence presented in the oral hearing (see witness statement of Tony Lynch in respect of traffic and transportation) (see revised drawings submitted as Appendix 4(a) at the oral hearing - Appendix G alternative traffic management proposals on North Quay). Under the amended proposal it is not intended to close North Quay in its entirety between the Ferrybank Roundabout and the entrance to the Bridgewater Shopping Centre. The modification now proposed seeks to retain one-way traffic flow on North Quay between Ferrybank Roundabout and the entrance to Bridgewater Shopping Centre; that is traffic will continue to travel eastwards along North Quay to the Bridgewater Shopping Centre throughout the duration of the works.

9.13.8. A major traffic concern raised by the Ferrybank and Seaview Residents Association under the original proposal related to the proposal to close North Quay for its entirety

for approximately one month and all traffic to the Bridgewater Shopping Centre and other developments on North Quay and Mill Road would be via Seaview Avenue. All construction traffic to the wastewater treatment plant would also be redirected along Seaview Avenue to a new temporary constructed road to the north of the wastewater treatment plant to the immediate east of Arklow Sports and Leisure Centre and recreational running track. The original proposals, which included the full closure of North Quay east of Ferrybank, was anticipated to have a significant negative impact, particularly at the junction of Ferrybank Road and Seaview Avenue with the potential for long queues forming at this junction. It was estimated that with the closure of North Quay approximately 6,000 daily trips would be rerouted through Seaview Avenue accessing the shopping centre and the North Quay via the new link road.

9.13.9. However, the proposal to accommodate one-way traffic along North Quay travelling between the Ferrybank Roundabout and the Bridgewater Shopping Centre at all times during the construction will reduce the volume of traffic expected to use the Seaview Avenue to access the temporary road between Mill Road and Seaview Avenue. The witness statement of Mr. Tony Lynch does not quantify the anticipated traffic reduction along Seaview Avenue as a result of keeping the North Quay open for one-way traffic. The reduction however should be significant as the Bridgewater Shopping Centre accommodates c.1,000 car parking spaces and the diversion of traffic away from Seaview Avenue to access the Bridgewater Shopping Centre should result in a significant reduction in vehicle numbers travelling along Seaview Avenue. As North Quay will be one-way eastbound from the Ferrybank Roundabout, traffic will still have to egress from the Bridgewater Shopping Centre via Mill Road and the temporary access road further east along Seaview Avenue.

9.13.10. The impact of the proposal on the residents of Seaview Avenue, even with the modifications proposed, will in my opinion still be significant if, albeit much reduced. However, it should be borne in mind that the partial closure of North Quay between the Ferrybank Roundabout and the access to the Bridgewater Shopping Centre will only take place during two discreet phases of the proposed construction works (Stage H and Stage I) each of which will occur for approximately one month giving a total duration of two months. Based on the figures presented in the original EIAR and notwithstanding the mitigation measures proposed by way of modification, it is still my opinion that traffic congestion is likely to occur at the junction of Ferrybank and

Seaview Avenue particularly in the case of traffic egressing from the Bridgewater Shopping Centre travelling along Mill Road northwards along the temporary access road and along Seaview Avenue westwards towards Ferrybank. It is likely that long queues will form at certain stages of the day along Seaview Avenue. Irish Water propose a number of temporary mitigation measures along Seaview Avenue and these include the manning of the Ferrybank/Seaview Avenue during busy periods including the provision of temporary traffic signals to ensure that the junction operates efficiently and safely. It is also proposed to incorporate traffic calming measures along Seaview Avenue (details of which are not indicated). The EIAR also suggests that the works should be carried out during the quiet period of the year possibly during the late summer and the control of parking around the Seaview Avenue/Ferrybank junction will need to be managed and controlled.

9.13.11. As in the case of other construction impacts, I consider that the construction phase will have a significant negative impact on traffic volumes and residential amenity for residents along Seaview Avenue. I would stress however that these measures will be temporary and will be restricted to a two-month period. On the basis of the temporary duration and the greater strategic need to provide a wastewater treatment plant, I would consider that the modifications proposed along North Quay and the other mitigation measures to be implemented as part of any traffic management scheme, would result in an acceptable impact and therefore would not justify a refusal of planning permission on the grounds that the temporary traffic impact would be unacceptable.

Alternative Temporary Access Road

9.13.12. An observation was submitted at the oral hearing on behalf of Bridgewater Shopping Centre by Tom Phillips and Associates in conjunction with DBFL Consulting Engineers. Witness statements were submitted by Ms. Louise Treacy on behalf of Tom Phillips and Associates and Ms. Jacqueline Haley on behalf of DBFL Consulting Engineers. While Bridgewater Shopping Centre very much welcomed the delivery of the proposed Arklow wastewater treatment plant, and also consider the modifications to the traffic arrangements on North Quay are welcome; concerns are still expressed in relation to the adverse impact that the temporary traffic works will have on accessibility levels to the Bridgewater Shopping Centre and the period of time under which the temporary traffic management works will be in place. Concerns are

expressed that the alternative route proposed by Irish Water including the temporary access road to the east of the leisure centre will require an additional 1.4 kilometre long circuitous journey for patrons wishing to access the Bridgewater Shopping Centre. It is argued that the reduced accessibility levels are likely to generate a negative influence on the commercial viability of the various businesses incorporated within the shopping centre. It is suggested that more appropriate junction control should be identified, evaluated and implemented prior to the commencement of Stage H and Stage I of the construction works which would result in a more appropriate junction layout minimising vehicle delay.

9.13.13. Also as an alternative, it is proposed to provide a new link road further west than that proposed by Irish Water. The new alternative link proposed on a strip of land between the existing houses on Seaview Avenue and Arklow Sports and Leisure Centre. The alternative link road estimated to be approximately 53 metres long linking Seaview Avenue and the existing access road currently serving the Bridgewater Shopping Centre would reduce the alternative journey arrangements from 1.4 kilometres to 0.65 kilometres. This it is argued, would improve the actual and perceived accessibility levels to the Bridgewater Shopping Centre and would result in a shorter journey distance with reduced journey times. It would also reduce the quantum of vehicle kilometres generated locally within Arklow resulting in energy savings and lower pollution levels. It is also argued that the alternative temporary access would result in a lower categorisation of haul road which enables a lower specification of road build to be implemented. This would have a significant cost saving. Slight changes to the access and egress to the multi-storey car park associated with the alternative access route are also set out in Section 3.24 to 3.26 of Ms. Haley's submission. It is not proposed to detail these minor access arrangements for the purposes of this assessment.

9.13.14. I consider that there is some merit in the alternative solution suggested in the submission on behalf of Bridgewater Shopping Centre. The proposal would result in shorter travel times to and from the shopping centre; albeit this reduction would be somewhat marginal, at less than a kilometre. However, a significant material consideration in my opinion is the acquirement of the lands in question in order to facilitate this alternative access. During the proceedings of the oral hearing it was indicated to the Board that the alternative access route between the residential

dwellings on Seaview Avenue and the Sports and Leisure centre may be under the ownership of Wicklow County Council. However, Wicklow County Council could not categorically confirm this during the proceedings. Mr. Fergal Keogh, Senior Engineer on behalf of Wicklow County Council indicated to the Board that the strip of land required to implement the alternative access may be required to be compulsory purchased by Irish Water in order to facilitate the development. This in my view could give rise to an unnecessary hold up to the project particularly if the lands in question were not in the ownership of Wicklow County Council.

9.13.15. I would question the appropriateness of initiating and completing new CPOs in order to acquire an alternative access in order to facilitate temporary traffic movements which would last a period of 2 months. Furthermore, I am not convinced that the actual and perceived inconvenience of accessing the Bridgewater Shopping Centre would be greatly alleviated on foot of the alternatives being sought by the shopping centre particularly for such a short period of time. Therefore, in my considered opinion the advantages to be gleaned from providing this alternative route when judged against the potential delay in delivering the project through initiating further compulsory acquisition of lands would not be worthwhile particularly as any such route would only be in operation for a period of two months. However, should the Board disagree with this conclusion it is open to it to seek further information and further modifications of the scheme in order to facilitate such a temporary alternative route.

Access to Arklow Marina Village

9.13.16. Concern was expressed in the submission by the Arklow Marina Village Owners Management Company Limited that pedestrian and vehicular access to the marina village on North Quay could be restricted during the construction period. Drawings have been submitted indicating the flow management of traffic during various stages of the construction of the interceptor sewer. The traffic management systems in and around Arklow Marina Village, are contained in drawings C-IS-930, C-IS-931, C-IS-932 and C-IS-933. These drawings indicate the sequential nature of the works which are proposed to take place and the drawings indicate that there will be continued access to the marina village during the construction of the proposed project. The Mill Road will be used as a temporary primary traffic route replacing the North Quay to provide access to the marina village during some of the stages of the construction

works. As already pointed out, the modifications proposed and put forward at the oral hearing will ensure that eastbound traffic will be maintained at North Quay throughout the construction period. As in the case of the Seaview Avenue residents, it is likely that the residents of Arklow Marina Village will be somewhat discommoded during the construction works. These works will be of temporary duration and would not in my view justify refusing planning permission for the proposed project.

Traffic Restrictions on South Quay.

9.13.17. Concerns were also expressed in a number of observations submitted by persons living along South Quay that the proposed traffic restrictions could impact on road safety and access as well as impact on parking on the roadside along South Quay. Irish Water acknowledge that there will be some changes to the provision of on-street car parking spaces along South Quay associated with the construction works. I noted however during my site inspection that there is ample parking provided on the streets surrounding South Quay and these could be utilised on a temporary basis during the construction works. As in the case of other aspects associated with the construction of the project, there will be material impacts in terms of traffic diversion and parking provision. I reiterate however that such impacts would not be so significant as to justify a refusal of planning permission and such impacts will be temporary in duration. Irish Water has ensured that access to all properties will be maintained throughout the duration of the construction works and the management of working areas will adhere to relevant health and safety legislation which is required under law.

9.13.18. The fact that tunnel shaft TSS2 will be removed from the proposed schedule of works along the South Quay will assist in freeing up space for improved traffic circulation and will ensure that all houses in the vicinity of the formally proposed tunnel shaft will be accessible throughout the works.

9.13.19. With regard to the issue of parking along Harbour Road, the drawings submitted did not indicate that there will be any changes to on-street car parking provision along Harbour Road and this is reaffirmed in the witness statement submitted by Mr. Tony Lynch in relation to traffic and transportation (see page 9 of submission).

Accessibility to Arklow Marine Services Building

9.13.20. With regard to access through the Arklow Marine Services building directly opposite the entrance to the wastewater treatment plant, concern was expressed that the proposed development may impact on access arrangements and sweep paths associated with the commercial development. Mr. Billy Tyrell in his evidence submitted to the oral hearing indicated that, in order to manoeuvre large boats in and out of his premises, he is sometimes required to remove the fence directly opposite the entrance which forms the boundary of the Old Wallboard site. While Mr. Tyrell reinstates the fence after manoeuvring the ships in and out of his work sheds, it appears from the evidence submitted to the oral hearing that the removal of the fence is not done with the consent of the landowner in question. It is likely therefore that any redevelopment of the site which incorporates a more permanent boundary would restrict the manoeuvrability of large vessels in and out of Mr. Tyrell's premises in the long term. Irish Water have indicated that the wastewater treatment plant site includes a setback to the existing road edge of 10.5 metres with 5.5 metres of this setback to have a concrete surface (adjacent to the roadway). The specification of the concrete surface will be similar to that of the existing roadway and will be capable from a structural perspective of accommodating access for boats into Arklow Marina Services. I would conclude that the increased setback would improve access for boats and large trailers in and out of the premises.

Concluding Comments in relation to Traffic

9.13.21. In my concluding comments in relation to traffic, I acknowledge that the proposed development during the construction phase will have a material, and in some cases, a significant impact on traffic volumes, traffic congestion and traffic diversion in and around Arklow - particularly in the case of the Seaview Avenue residents. However, I note that such a profound impact will be of a temporary duration estimated to be 2 months and I consider this impact to be acceptable in the context of the overall scheme and the strategic need for a wastewater treatment plant for the town of Arklow for reasons outlined previously in my assessment.

9.13.22. Finally, I note that an observation was received by the TII. It stated "*that it had no objection to the findings presented in terms of potential impact on the safety and efficiency of the national road network and subject to the development being*

undertaken based on the analysis set out in the EIAR, including the mitigation measures included in Section 7, TII has no specific comments to make on the proposed development". It is apparent therefore that TII has no objection to the development in principle.

9.14. **Flooding and Flood Risk**

9.14.1. A number of submissions expressed concern that the proposed development and the works to be undertaken, including the reclamation works along the river's edge, could exacerbate flood risk in the area. Arklow is susceptible to flood risk and there have been many notable major flooding events over the previous 30-year period some of which have resulted in damage to property. Numerous flood events have been recorded on the OPW flood database.

9.14.2. The EIAR notes the site of the the wastewater treatment plant is not on an historic floodplain. The major flooding concerns raised in the observations submitted relates to the construction of a temporary causeway 10 metres wide for approximately 270 metres within the channel to facilitate the construction of an interceptor sewer and a new quay wall. Part of this causeway will also include a permanent encroachment into the river channel to facilitate the interceptor sewer. This will obviously encroach on the dimensions of the existing river channel and therefore reduce the volume of the overall carrying capacity of the channel. A hydraulic model of the Avoca River was run to examine the implications of the construction of this temporary causeway. It predicts that the temporary causeway would cause increases in flood levels downstream of Arklow Bridge of approximately 1.9 centimetres and 5.5 centimetres.

9.14.3. However, according to the witness statement provided by Mr. Anthony Cawley (submission No. 11) in relation to flooding, it is stated that the main flood threat associated with Arklow Town is upstream of Arklow Bridge. The limited dimensions of the arches at Arklow Bridge acts as a throttle or choke for water passing along the river bed to the coastal area. This results in a back-up of water upstream of Arklow Bridge and an overtopping of the riverbanks.

9.14.4. The Board will note from statements contained throughout the EIAR that the OPW and Wicklow County Council are in the early stages of a design development for a flood relief scheme for Arklow. The EIAR in Section 2.6.7.1 provides details of the

emerging design for the Arklow Flood Relief Scheme. However, detailed design timelines for the flood relief scheme are behind that of the wastewater treatment plant. A separate application for the proposed Arklow Flood Relief Scheme is anticipated to be lodged to An Bord Pleanála at a later date. It is also clear from the EIAR (see Chapter 2, page 20) that the proponents of both the wastewater treatment scheme and the Arklow Flood Relief Scheme have considered each other's proposals during the respective design development. Any overlapping elements of each of the scheme have been designed in an integrated matter as far as possible. The proposed flood relief scheme will involve the provision of flood defence walls, embankments and gates in order to assist flood containment. Such flood defence infrastructure will be provided as part of the flood relief scheme and not as part of the proposed Arklow wastewater treatment development. It will be the subject of a separate application for consent and will be evaluated on its merits and in accordance with the proper planning and sustainable development of the area.

9.14.5. Notwithstanding this issue, Irish Water have stated that specific mitigation measures have been provided namely through the deepening of the river bed under Arch 2 to provide a greater conveyance capacity of water during high flood events. I consider that it would be premature for the Board to refuse planning permission for the proposed wastewater treatment plant on grounds of flooding having regard to the fact that a more comprehensive flood relief scheme is being prepared to mitigate against flooding in Arklow Town. These flood mitigation measures do not form part of the application before the Board. Arklow Flood Relief Scheme will be subject of a separate planning consent process.

9.14.6. I am satisfied that works associated with the proposed wastewater treatment plant will not exacerbate flood risk in Arklow Town as fluvial flood risk is confined to the stretch of river upstream of Arklow Bridge and the increase in the flow capacity under Arklow Bridge at Arch 2 will counteract any decrease in the capacity of the river due to reclamation works upstream of the bridge. It is clear from the drawings submitted that the reclamation works upstream of the bridge are very modest in nature.

9.14.7. Concerns are expressed in one observation that the proposed reclamation works will eliminate the existing bend in the river along South Quay and this is inappropriate from a natural aesthetic point of view. It is clear from the drawings submitted that the proposed reclamation works will follow the existing curve in the river. It should also

be noted that the existing quayside and embankments along the North and South Quay are manmade morphological features.

9.14.8. Finally, a number of observations suggest that any flood walls should be setback from the river's edge, should be made of glass and should not involve the removal of any slipways into the river. It is clear from the witness statement of Mr. Anthony Cawley that there is no proposal to provide flood defence walls or increase the height of existing flood walls under the current application for the wastewater treatment plant. The flood relief scheme will examine these issues and will be the subject of a separate statutory consent. It is clear therefore that the proposed wastewater treatment plant while cognisant of the proposed flood relief scheme, particularly in relation to potential cumulative impacts, it is not reliant on the provision of such a scheme to progress nor will it result in any significant flood risk for the town of Arklow.

9.14.9. The revetment upgrade will ensure coastal protection within the site for a 500-year return storm period and has been designed to protect against wave overtopping and to satisfy functional and safety requirements.

9.15. **Archaeology**

Arklow Bridge

9.15.1. No concerns were raised in any of the observations submitted with regard to potential impacts on the integrity of Arklow Bridge, a protected structure in the county development plan. Nevertheless as the Board are examine the proposal in its entirety and in the first instance any potential impact on the bridge should be assessed as part of the proposal. The Bridge was built between 1754 and 1756 by Andrew Noble. The 19-arch bridge is the longest hand-made stone bridge in Ireland and has important historical connotations with the 1798 rebellion. It is therefore an important historical, architectural and cultural landmark within the town. The proposed interceptor sewer pipeline will pass under the most southern arch of Arklow Bridge. Because of land constraints and the presence of a range of existing utilities at the bridge, the interceptor sewer cannot be accommodated on the landside portion of the bridge. The underpinning of the two most southern arches is required in order to facilitate the pipeline at the most southerly arch and also the

deep in the riverbed as a flood mitigation measure. All the works to be undertaken in the underpinning of the arches including grouting works will take place at the bridge piers and will not affect the historic architecture or visual integrity of the bridge in question. It should be noted that the upstream side of the bridge has been altered, underpinned and cantilevered in order to widen the bridge for vehicular and pedestrian traffic in the mid-20th century.

Arklow Castle

9.15.2. The observation submitted by Sophia Meeres argues that the proposed Alps storm water overflow tank is located in close proximity to Arklow Castle which is a recorded monument (RMP No. WI040-029002). The original castle dates back to the 12th century. However, only a remnant of the castle remains adjacent to the escarpment in the vicinity of the Alps SWO. Arklow Castle was not readily visible during my original site inspection in November 2018 however evidence presented at the oral hearing indicates that the partial ruins have been cleared of ivy and as a result in more readily visible from the riverside walk. However, only a fragment of Arklow Castle remains, and its setting and context will not in my view be diminished to any material extent by the presence of the Alps storm water overflow tank. I refer the Board to Photograph No. 1 accompanying the report. It clearly indicates that the remnants of the castle are not readily visible. Furthermore, the proposed SWO facility will be substantially below the castle. While the proposed storm water overflow tank is located approximately 15 to 20 metres from the remnants of the castle, I do not consider that it in any way materially impacts on the context and setting of the castle. The castle is not readily accessible from the Alps and has not been the subject of any public realm improvement works which would be impacted upon by the works proposed.

Wastewater Treatment Plant

9.15.3. The site of the wastewater treatment plant previously accommodated a large chemical works which commenced in 1896 and ceased production at the end of the First World War. There is little or no remnants of the former chemical works either within the site or on lands to the north of the site. The site was subsequently developed during the 1980s and now contains the remains of a derelict plasterboard factory. There is little of architectural or historical importance on the wastewater

treatment plant site. The EIAR states that mitigation measures will be put in place including the monitoring of all works under the supervision of a project archaeologist. Any previously unrecorded features or deposits will be made available to ensure the preservation by record of any such features should it be deemed appropriate.

9.15.4. The submission from Sophia Meeres also suggested that the existing wallboard factory and metal chimney which currently exists on site are in themselves iconic structures and should be treated as such. I note that the buildings in question are in a sorry state of disrepair and in my opinion constitutes somewhat of an eyesore on the urban environment of Arklow. The buildings are not listed in the record of protected structures. During the proceedings of the oral hearing Andrew Clancy, (Architect on behalf of Irish Water) was asked about the possibility of incorporating the 46-metre-high metal chimney associated with the old wallboard factory into any new proposal for the site. Mr. Clancy indicated that the structural integrity of the chimney is defective, and it would therefore be not appropriate to incorporate it into any future proposal for the purposes of posterity.

Marine Archaeology

9.15.5. In relation to aquatic archaeology, marine geophysical surveys were undertaken in the vicinity of the proposed long sea outfall. Desktop research indicates that while there were more than 173 recorded ship wrecking events associated with the Avoca River and Arklow Coast, there are no known or recorded wreck sites within the area which is subject to survey. The closest site to the long sea outfall was located approximately 3 kilometres away. As a mitigation measure the EIAR states that all excavation associated with the sea outfall and the revetment upgrade will be monitored by a suitably qualified underwater archaeologist.

9.16. Ecological and Biodiversity Issues

9.16.1. Ecological and biodiversity issues did not feature prominently in the observations received by the Board; nor were they a prominent issue during the proceedings of the oral hearing. However, however for the purposes of completing a comprehensive evaluation of the proposal, as the application was made to the Board in the first instance, the ecological issues associated with the development are discussed and evaluated below.

9.16.2. From the outset the Board will note that the proposed development will benefit the aquatic environment and biodiversity generally in the Avoca River and Estuary. The removal of untreated effluent being discharged into the Avoca River will have a positive impact on the status of the river and estuarine waters and therefore will assist in achieving the overall objectives of the WFD.

9.16.3. However, some concerns were expressed that natural habitats on the banks of the Avoca River upstream of Arklow Bridge could be adversely affected by the works to be carried out, particularly in relation to the interceptor sewer. It is proposed to locate one temporary construction area on the north side of the river to the immediate west of Arklow Bridge. It should be noted that the construction site is located proximate to, but not within the Arklow Town Marsh proposed Natural Heritage Area. It is clear from Photograph No. 32 attached to my report that the working area has been heavily modified with large amounts of gravel and hardcore placed within the working area. The working area could not be described as pristine natural habitat. The evidence of Mr. Brian Deegan at the oral hearing states that this area was partially cleared in late 2016 in connection with a road upgrade project. The area surrounding the hardstanding and gravel comprises mainly of shrubland.

9.16.4. With regard to the south side of the river upstream of the bridge, the main intervention proposed is around the Alps with the provision of an SWO tank and fencing. It is argued that the proposed works will lead to a loss of vegetation which provides habitat for wildlife. The area to facilitate the Alps SWO and storm water storage tank is described in detail in Section 11.3.2.1 of the EIAR. The biodiversity within the planning boundary of the proposed development is assessed as being of 'high local importance' upstream of Arklow Bridge and of 'low local importance' downstream. However, the habitats present in the Alps SWO and storm water storage tank site on the south side of the Avoca River are described as being '*species poor including the non-native invasive plant species buddleia and cherry laurel and these are assessed as being of low local ecological importance'*. Measures to control the spread of invasive species (buddleia) are recommended at this location and mitigation measures for biodiversity and include the planting of honeysuckle and seeding adjoining ground with native grasses and wildflowers. The area is to be managed as a short meadow which in increase and assist biodiversity along the river bank. I consider the mitigation measures to be provided at this

location will improve the natural habitat for wildlife. The impact in my view rather than being negative, will if anything be positive. The measures proposed according to the witness statement of Mr. Deegan will provide shelter and habitat for insects and feeding habitats for bats in the vicinity of the previously used Arklow Castle bat roost.

9.16.5. The observation from the Ferrybank and Seaview Avenue Residents Association also expressed concerns that the proposed temporary access road could also be harmful for biodiversity and wildlife. The temporary access road is located close to Arklow Pond to the north of Arklow Leisure Centre and while this is not a natural heritage area, it is of ecological conservation value as a wetland and this is acknowledged by the applicant. It is noted that the pond also provides a habitat for a flock of feral greylag geese at Arklow. While such geese are not of any designated conservation interest, they are resident in the area throughout the year. The temporary access road at its closest point is approximately 30 to 40 metres from the pond. However, the Board will note that the Arklow Pond is located in close proximity to the built-up area of Arklow and that the geese in question regularly frequent the surrounding roads including Seaview Avenue. It is therefore not considered likely that the geese or other wildlife will be significantly disturbed or displaced by the temporary works proposed. And as already stated any potential impact which might occur will be temporary.

9.16.6. With regard to the removal of trees, it will be necessary to remove some trees along the riverbank during the course of constructing the interceptor sewer. The trees which will be removed are indicated in the drawings submitted. The vast majority of the trees to be removed are young, or at best, semi-mature trees as indicated in the various photographs attached to this report. Where these trees are to be removed, they will be replanted with native tree species. The omission of tunnel shaft TSS2 on the South Quay will also eliminate the necessity for the removal of trees at this location.

9.16.7. Submissions from prescribed bodies also raised some ecological and biodiversity issues and these are briefly commented on below. It should be pointed out in the first instance that the submission by the Department of Culture, Heritage and the Gaeltacht have no objected to the proposed development on nature conservation grounds. Rather it suggested a number of measures which should be employed including the suspension of construction associated of the long sea outfall, where

wave heights might be excessive. This is recommended on the grounds that this could lead to high levels of sediment suspension and transport within the Arklow Coastal Area which could in-turn potentially impact on coastal habitats. Irish Water have indicated their willingness to comply with any such requirements.

9.16.8. The submission by the Department also notes that a derogation licence issued in relation to bats will most probably be required to be renewed as the current derogation expires on 31st March, 2019. Irish Water have acknowledged that a further derogation licence will be required. It is also stated that all mitigation measures for protected bat species and monitoring will be required as outlined in Section 11.5.1.1 (see Chapter 11 of the EIAR, pages 83 to 85).

9.16.9. The submission from Inland Fisheries Ireland also requires that mitigation measures detailed in Chapter 11, Section 5.1 of the EIAR should be implemented in full. Irish Water has stated that such mitigation measures will be implemented in full.

9.16.10. Finally, during the proceedings of the oral hearing the submission by Mr. Stephen Kavanagh on behalf of the Seaview Avenue Residents Association noted that Arklow is famous for its bird murmurations. Mr. Kavanagh questioned whether the proposed development could adversely impact on wildlife so as to disrupt or displace the murmurations. Mr. Clancy, Architect on behalf of Irish Water indicated that the serrated façade on the elevational treatment of the wastewater treatment plant buildings will provide excellent roosting sites for birds and will offer a direct replacement for roosting sites which may be lost in the buildings associated with the Old Wallboard Factory.

9.16.11. Finally, the Board will note in relation to ecological and biodiversity issues that a separate section below specifically deals with issues relating to appropriate assessment.

9.17. **Other Residential Amenity Issues**

9.17.1. The submission by Sophia Meeres requested that the Board consider incorporating an amenity walk along the new revetment in order to provide a recreational amenity along the coast and also to provide better access to the beach area.

Revetment Recreation Walk

9.17.2. Irish Water pointed out at the proceedings of oral hearing, that its statutory function is as a water authority and it is not mandated to provide recreational infrastructure. Furthermore, it is also suggested that the provision of a walkway along the upgraded revetment could give rise to some health and safety issues during periods of inclement weather. For these reasons I would not recommend that the Board include a condition requiring that a public walkway be provided along the new revetment.

Loss of Children's Play Areas

9.17.3. Observations also expressed concerns that the proposed development will result in the loss of green space and children's play areas. Some green space will be lost for a temporary period during the construction of the interceptor sewer, particularly upstream of the Arklow Bridge. However, all disruption will be temporary in nature and green areas will be reinstated. The fact that TNSS2 can be omitted by way of modification will ensure that the green areas to the front of the houses at South Quay including the front gardens will no longer be required to facilitate construction works. Therefore, no green areas in this part of the scheme will be impacted upon.

Periodic Cleaning of Houses and Cars During Construction Works

9.17.4. One of the observations submitted also suggested that there was a need for a detailed cleaning schedule for houses and cars etc. during the course of construction works. A suite of mitigation measures is being proposed as part of a dust minimisation plan which is set out in the EIAR and which is to be further developed as part of the Construction Environmental Management Plan (CEMP). The mitigation measures include the provision of hoarding around construction sites, the spraying of exposed areas and site haul roads during dry weather, the provision of wheel washes at exit points, the covering of stockpiles and the sweeping of hard surface roads. Staff training and the management of operations as proposed should ensure that all dust suppression methods are effective and therefore I do not consider it necessary that the Board would implement a condition requiring the applicant to carry out cleaning of windows, vehicles etc. on a periodic basis for houses in the vicinity of the construction works. It is of course open to the Board, should it consider it appropriate, to attached a condition requiring periodic cleaning.

Lack of Consultation

9.17.5. Consultation requirements set out under planning legislation have been adhered to during the course of the application. Public notices were placed in both the Irish Independent and the Wicklow People on 5th September, 2018. Numerous public site notices were erected along the entire alignment of the proposed development. I inspected the said notices during my site inspection. The public notices clearly indicated that the application was accompanied by an Environmental Impact Assessment Report and a Natura Impact Statement. Furthermore, the public notice clearly indicated that submissions and observations could be made to An Bord Pleanála within a specified period. An oral hearing was held in respect of both the strategic infrastructure application and the CPO on January 22nd and 23rd (in relation to the strategic infrastructure application) and January 25th and June 21st 2019, (in respect of the CPO). In relation to the SID oral hearing, the Board invited observers who had already made written submissions to the Board to present oral submissions at the hearing. In addition, other members of the public were invited to make observations should they choose to do so on the payment of a statutory fee. The statutory consultation requirements have been fully complied with.

9.17.6. In addition to the statutory requirements, Irish Water also undertook a series of non-statutory consultation. Three periods of non-statutory public consultation were undertaken from October to December 2014, May to July 2015 and October to November 2017. Drop-in information events were held in Arklow Town during each consultation period and press releases were also issued to through the local media in order to raise awareness of the project. Details of the non-statutory consultation process are set out in Section 1.5.3 of the EIAR. Having consulted this section of the EIAR I consider Irish Water have carried out a robust and comprehensive exercise in order to ascertain public views throughout each stage of the development of the project. I therefore consider the public consultation process to be appropriate and acceptable.

9.17.7. Irish Water have also indicated that a designated liaison officer will be available to promote communication and consultation throughout the course of delivering the project.

10.0 **Appropriate Assessment**

This section of the report considers the likely significant effects of the proposal on the relevant European sites in view of their Conservation Objectives. A Natura Impact Statement (NIS) accompanies the application.

10.1. **Stage 1 Screening**

Within a 15 kilometre radius of the project, three Natura 2000 sites are identified along the coast and an additional SAC (the Slaney River Valley SAC) lies within the 15 kilometres radius (13.2 kilometres away) inland of the project. However, this SAC is not hydrologically linked to the Avoca River catchment and as such does not have the potential to be within the zone of influence of the proposed development and therefore it is reasonable to exclude this Natura 2000 for the purposes of this assessment. The three relevant SACs are as follows:

- The **Buckroney – Brittas Dunes and Fen SAC (Site Code: 000729)** which, at its closest point, is approximately 4.6 kilometres north of the site.
- The **Kilpatrick Sand Hills SAC (Site Code: 001742)** which lies approximately 6.5 kilometres to the south of the site at its closest point.
- A part of the **Magaharbeg Dunes SAC (Site Code: 001766)** which lies at its closest point approximately 14.5 kilometres from the subject site.

10.1.1. The qualifying interests associated with each of these SACs are set out below.

<u>Buckroney – Brittas Dunes and Fen SAC.</u>

- *Annual vegetation of drift lines (1210).*
- *Perennial vegetation of stony banks (1220).*
- *Mediterranean salt meadows (Juncetalia Maritimi).*
- *Embryonic shifting dunes (2110).*
- *Shifting dunes along the shoreline with ammophila arenaria (white dunes) (2120).*
- *Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130) (priority habitat).*

- *Atlantic decalcified fixed dunes (calluno – ulicetea) (2150) (priority habitat).*
- *Dunes with salix repens ssp. Argentea (salicion arenariae) (2170).*
- *Humid dune slaks (2190).*
- *Alkaline fens (7230).*

The Kilpatrick Sand Hills SAC.

- *Annual vegetation of drift lines (1210).*
- *Embryonic shifting dunes (2110).*
- *Shifting dunes along the shoreline with ammophila arenaria (white dunes) (2120).*
- *Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130) (priority habitat).*
- *Atlantic decalcified fixed dunes (calluno – ulicetea) (2150) (priority habitat).*

The Magaharbeg Dunes SAC.

- *Annual vegetation of drift lines (1210).*
- *Embryonic shifting dunes (2110).*
- *Shifting dunes along the shoreline with ammophila arenaria (white dunes) (2120).*
- *Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130) (priority habitat).*
- *Atlantic decalcified fixed dunes (calluno -ulicetea) (2150) (priority habitat).*
- *Petrifying springs with tufa formation (cratoneurion) (7220) (priority habitat).*

10.1.2. With regard to the potential of the proposed development to affect any of the conservation objectives, the NIS concludes in the stage one screening assessment '*that the potential effects of the works in coastal waters and on coastal processes will be considered further with regard to the attribute physical structure in terms of its functionality and its sediment supply'*.

10.1.3. Table 5 of the NIS sets out details of the qualifying interests associated with the three SACs in question and other SACs further afield. In relation to the SACs

identified as being in the zone of influence, these SACs are described as having a potential to be affected by the proposed development and are therefore brought forward to a Stage 2 Appropriate Assessment.

10.1.4. I would agree with the conclusion that the potential for significant effects on qualifying interests of the Buckroney – Brittas Dunes and Fen SAC, Kilpatrick Sand Hills SAC and the Magaharbeg Dunes SAC cannot be screened out at the initial stage of assessment and accordingly, it is appropriate that a Stage 2 Appropriate Assessment be undertaken to determine the potential of the proposed development to adversely affect the integrity of the said European sites. Section 6 of the NIS provides details of the Stage 2 Appropriate Assessment.

10.2. **Stage 2 Appropriate Assessment**

Introduction

10.2.1. The proposed potential impacts arising from the project proposed will be indirect as opposed to direct. The works to be undertaken as part of the wastewater treatment project are physically removed a generous distance from the Natura 2000 sites which could be potentially impacted upon and for this reason the proposed works to be undertaken will not result in any direct loss of species or habitats nor would it directly result in the fragmentation of habitats.

Potential Impacts arising from Construction

10.2.2. The proposed works to be undertaken that could potentially impact on the Natura 2000 sites in question relate to:

- The revetment upgrade.
- The construction of a new stormwater outfall pipe as part of the revetment upgrade.
- And the construction of the long sea outfall.

10.2.3. The potential construction works which could conceivably impact on the integrity of the qualifying interests associated with the SACs in question include:

- Exacerbating or increasing sediment movement along the sea bed during the construction of the revetment upgrade, the stormwater outfall and the long sea outfall. The disturbance, displacement and transport of increased levels of sediment could potentially alter ecosystems, ecologically sensitive areas and sensitive habitats along coastal areas including those habitats associated with the SAC's identified within the zone of influence.
- Also during the operational phase, the presence of a new long sea outfall along the seabed and to a lesser extent the construction of a storm water overflow could conceivably impede longshore drift which could also alter/hinder the transportation and settlement of sands, sediments and silts which occur naturally during the longshore drift process.

10.2.4. Studies undertaken and referred to in the NIS, indicate that the longshore drift along the south-eastern coasts of Wexford and Wicklow move from south to north along the coastline. The NIS also identifies a sub-physiographic unit between Kilmichael Point (c.6.7 kilometres to the south of Arklow and Mizen Head approximately 9 kilometres to the north of Arklow which operates as a sub-unit in terms of longshore drift within the wider coastal area). Sediment transportation directions are indicated in Figure 28 and Figure 31 of Appendix E of the NIS. The southern part of the Buckroney – Brittas Dunes and Fen SAC is located to the immediate south of Mizen Head and as such parts of the SAC is located within the sub-physiographic unit between Kilmichael Point and Mizen Head.

10.2.5. As the prevailing direction of longshore drift is north-westwards along the coast of Wicklow, it is reasonable to assume that the conservation status of the qualifying interests of the Kilpatrick Sandhill SAC will not in any way be affected by the potential mobilisation of sand and silt, as this Natura 2000 site is located 6 kilometres to the south of Arklow. Therefore, it will not be impacted upon if any alterations to sediment transportation and distribution process arise from the proposal. It is reasonable therefore to conclude that there is no possibility that the works to be undertaken will in any way, during the construction or operational phase, impact on the Kilpatrick Sand Hills SAC.

10.2.6. In relation to the Buckroney – Brittas Dunes SAC which is the closest SAC to the proposed works to be undertaken, as already stated, part of this SAC lies to the

south of Mizen Head and this area includes some dune formations which form part of the qualifying interest of the SAC (the Buckroney Dunes and the Pollycomelately Dunes are both located south of Mizen Head). The modelling of coastal processes which naturally occur within the sea adjacent to the Arklow coast are set out in detail in Appendix E of the NIS. The assessment concludes that the only potential effect that the upgrading could have on the coastal dynamics during the construction phase is through the dispersion of material during the construction of the revetment upgrade, the long sea outfall and to a lesser extent the storm water overflow which discharges directly into the coast.

Revetment Area - Potential Construction Impacts

The excavation of materials from the seabed is limited to the toe of the revetment and the volume of material to be displaced as a result of the construction works is anticipated to be small. The potential transport of any suspended materials within the sea will most be confined to the surf zone area along the coast. This is limited to the bathymetric contours of zero to -6.5m (chart datum)[6].

Furthermore, the revetment area is somewhat sheltered by the extension of the Arklow Harbour walls together with the reclaimed land on which the subject site is located and will project beyond the natural coastline and consequentially shelter the coastal area in the immediate north of the town. This will assist in sheltering and protecting this section of the coastline which in turn will further assist in the containing potential for dislodging and transporting sediments further afield during the construction works.

It can be reasonably adduced on the basis of the natural physiographic and bathymetric characteristics of the coastline, that any mobilised material is expected to be naturally deposited within the immediate confines of the North Arklow coast and is likely to be restricted on the whole to this local area to the north of the town (between Arklow Town and Seabank). It cannot be expected to extend to the zone of influence associated with the Buckroney – Brittas Dunes and Fen SAC, located a further 2 to 3 kilometres north of the area potentially affected by transportation of sediments. On this basis it is reasonable to conclude that there will be no impacts arising from the construction of the revetment on the SAC(s) in question.

[6] Chart Datum refers to the water level at the lowest astronomical tide.

Proposed Stormwater Outfall at the Wastewater Treatment Plant – Potential Construction Impacts

In terms of the potential construction impacts associated with the SWO and the wastewater treatment plant. I anticipate that there will be no impact during the construction or operational phase. As in the case of the revetment, the SWO will be located at the coastal edge of Arklow Town and will not extend any appreciable distance out into the seabed. Therefore, it will not impede on the transportation of longshore sediment along the northern coastline.

During the construction phase all works will take place within a designated area which is sealed off with cofferdams within the existing revetment. Thus, potential for sediment displacement will be contained within the cordoned area which will prevent the escape of sediments. The containment of the works in question will ensure that no impacts occur on the integrity of any of the qualifying interests associated with the coastal Natura 2000 sites to the north.

Long Sea Outfall – Potential Construction Impacts

There are several methods by which the long sea outfall can be constructed. The preferred method will be determined by the contractor. The construction methods under consideration include:

- The horizontal directional drilling method.
- The flood and flow method.
- The bottom pull method.

The potential impacts would also arise with the construction of the proposed diffuser at the end of the long sea outfall. Details of the construction of the long sea outfall are set out in Section 5.6.5.1 of the EIAR.

Proposed Diffuser

No matter which method is employed in the construction of the long sea outfall, the diffuser would be preassembled on land and placed on the seabed most likely in a small open cut trench (c.60 metres in length and c.6 metres wide). The modest nature of the works together with the generous separation distance between the proposed diffuser and the southern tip of the nearest SAC, which I estimate to be approximately 4.5 kilometres, will ensure that any potential indirect effect would be

imperceptible. Notwithstanding this, the NIS proposes a mitigation measure to be employed on the basis of the precautionary principle, namely that the diffusers would only be installed during periods of calm weather where wave heights are restricted to less than 1.25 metres in height.

Horizontal Directional Drilling

With regard to the directional drilling method, this method of outfall construction would involve drilling a long sea outfall within the underlying bedrock and this would not result in any change in the seabed topography and thus would not involve any displacement of sediment or silt during the tunnelling process. As a result, no impact would arise in terms of altering the transport movement and placement of sediments which could potentially impact on the qualifying interests of the SACs to the north.

Float and Flood and Bottom Pull Methods

Both the float and flood method and the bottom pull method will involve the excavation of a trench to accommodate the new outfall. The trenches would be approximately 1.4 metres deep and a maximum of 6 metres in width. The creation of a trench would obviously result in an increase in settlement dispersion and movement therefore could have potential impacts on coastal processes and on sensitive ecological receptors.

It is estimated that approximately 50% of the trench associated with the long sea outfall is located within the sheltered area to the immediate north of Arklow Town. As in the case of the revetment, any deposition of sand and silt within this section of the outfall will be transported and deposited locally. Modelling undertaken as part of the coastal process assessment indicated that there will be little or no settlement movement beyond the immediate environs of the trench and therefore will not extend to the vicinity of the two identified SACs to the north within the potential zone of influence. There would therefore be no adverse impact on the integrity of the qualifying interests associated with the two SACs to the north.

It is possible that during extreme storm events or gales, larger volumes of material could be displaced during the period under which the trench is being constructed. The NIS acknowledges this and recognises that mitigation measures may have to be put in place during the construction period in order to combat excessive plumes of sediement. Mitigation measures stated in the NIS suggest that the construction of

the long sea outfall should be restricted to the period between May and September when generally coastal seas are at their calmest. I would further point to the witness statement of Mr. Brian Deegan (Witness Statement No. 8 submitted during the proceedings of the oral hearing), page 9 of this statement suggests that the Board might consider a single planning condition applicable throughout the year whereby construction activity on the long sea outfall would be suspended during periods when wave heights are forecast by Met Eireann to exceed 1.25 metres. Waves of 1.25 metres are characterised as having a "slight" height or less as per the classification employed by Met Eireann. The inclusion of such a condition in my opinion would be a more enforceable and effective mitigation measure so as to ensure that any potential displacement of transport of sediment will be confined to an area in the vicinity of the outfall and would not present any threat to waters located within the zone of influence of the SAC.

Operational Phase - Potential Impacts

During the operational phase, the long sea outfall has the potential to act as a barrier to sediment transport along the coastline with potential consequential changes in coastal process along the shoreline to the north where the SACs are situated. Any potential barrier will be mitigated through the design of the long sea outfall. It is proposed to place the pipe within the trench and cover the pipe with a 300 millimetre scour concrete mattress along the entire 930 metre alignment (for details of cross section of the proposal see drawing 24785-00M-O-3101P1). The scour mattress will be flush with the sea bed level. As a result of the placement of the pipeline within the seabed, and the creation of an 'at level' scour mattress, there will be no impediment or barrier to sediment transport along the alignment of the outfall pipe. The concrete mattress will, over time, be colonised by marine organisms. Thus, the impact on the long sea outfall during the operational phase is assessed as being neutral and will not result in any adverse or any material impact on long shore drift transport or deposition rates. It can be concluded therefore that during the operational phase, the long-sea-outfall will not impact on the integrity of the qualifying interests of the two identified SACs along the coastline to the north of the subject works.

With regard to operational impacts arising from the proposed upgraded revetment, the revetment upgrade will in no way present a barrier to longshore drift and therefore it would no impact on sediment transportation during the operational phase

and therefore will have no impact on the integrity of the qualifying interests associated with the SACs.

Indirect Impacts

I have already argued above that the proposed works to be undertaken will not result in any direct impacts on the SACs in question as they are physically removed from the designated areas and will not result in any reduction in habitat area or fragmentation of habitat area. Therefore, all potential effects arising from the works proposed would be of an indirect nature and these have been assessed above.

In-combination Effects

I note that in the NIS assessment, potential cumulative impacts which could possibly arise from the proposed development are set out in Section 7.2. As in the case of the EIAR presented with the application, the proposed Arklow Flood Relief Scheme is the only project which has been identified as having a potential to give rise to in combination effects. The scheme will likely comprise of the construction of direct flood defences including flood defence walls and embankments and gates within Arklow Town to improve the town's resilience to flood events ,as well as carrying out conveyance improvements in the Avoca River. Due to the fact that works proposed in the Arklow Flood Relief Scheme will primarily be related to the Avoca River and not the coastal area, it is highly unlikely that any of the envisaged works to be carried out as part of the scheme would interact with the Natura 2000 sites identified within the zone of interest. As a result, I would consider that there is no potential or significant in-combination impacts and as such I am satisfied that no in-combination effects will arise.

10.3. **Appropriate Assessment Conclusion**

On the basis of the information provided with the application, including the Natura Impact Statement which I consider adequate to carry out a Stage 2 Appropriate Assessment, the submissions received, and the assessment carried out above, I am satisfied that the proposed development either individually or in combination with other plans and projects would not adversely affect the integrity of European sites in the vicinity including

- Buckroney – Brittas Dunes and Fen SAC (Site Code: 000729).

- Kilpatrick Sand Hills SAC (Site Code: 001742) and
- Magaharbeg Dunes SAC (Site Code: 001766)

or any other European site in view of the site's conservation objectives.

Furthermore, I consider the proposed project will not adversely affect the integrity of the designated sites in question and that no reasonable scientific doubt remains as to the absence of such effects based on the assessment carried out in the NIS and my own independent assessment of the information contained therein.

11.0 ENVIRONMENTAL IMPACT ASSESSMENT

11.1. Introduction

11.1.1. The application is accompanied by an Environmental Impact Assessment Report (EIAR) on the basis that it falls within the 7th Schedule of the Planning and Development Act 2000 (as amended) and also falls within Class 11 Class 11 (b) (iv) of the Fifth Schedule of the Planning and Development Regulations, that being the provision of a Wastewater Treatment Plant with a capacity greater than 10,000 PE. No formal scoping procedure with the Board was entered into. The application was received by the Board on September 12th 2018 and therefore, having regard to the provisions of Circular Letter PL1/2017, the subject application falls within the scope of the amending 2014 EIA Directive (Directive 2014/52/EU) on the basis that the application was lodged after the last date for transposition in May 2017. It also falls within the scope of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI No. 296 of 2018), as the application was lodged subsequent to these Regulations coming into effect on 1st September 2018.

11.1.2. This section evaluates the information in the EIAR and carries out and independent and objective environmental impact assessment (EIA) of the proposed project. I have examined the information submitted by the applicant including the submitted EIAR as well as the written submissions made to the Board, both in respect of the submissions originally submitted to the Board and the various submissions made at the oral hearing.

11.1.3. A single EIAR (albeit in a number of separate volumes) has been prepared in respect of the proposed development. I am satisfied that the environmental impact of the proposed treatment plant and associated interceptor sewers, revetment upgrade and long sea outfall are addressed under each environmental factor assessed in the EIAR, in addition to the cumulative impacts arising from the constituent elements of the development. A number of the environmental issues relevant to this EIA have already been addressed in my Planning Assessment of this report above. This EIA section of the report should therefore, where appropriate, be read in conjunction with the relevant parts of the Planning Assessment.

11.1.4. The impact of the proposed development is addressed under all relevant headings with respect to the environmental factors listed in Article 3(1) of the 2014 EIA Directive. The EIAR clearly sets out a case regarding the background to and need for the project (Section 2.3 of Vol.2 – Book 1). The EIAR also provides a significant level of detail with regard to the consideration of alternatives (Chapter 3 of Vol.2 Book 1) in accordance with the requirements of Part 2 of Annex IV of the Directive which required the developer to carry out 'a description of reasonable alternatives studied by the developer'.

11.1.5. The main issues raised specific to EIA can be summarised as follows:

- The positive effect arising from the prohibition of untreated effluent via 19 separate combined sewage and surface water overflows from Arklow town into the Avoca River with the diversion of effluent to a new WWTP and long sea outfall discharging effluent into the Irish Sea.
- The adverse impact that is likely to occur during the construction phase, due to high levels noise and vibration associated particularly with the interceptor sewers.

11.2. Consideration of Alternatives

11.2.1. Chapter 3 includes discussion on the alternatives considered as part of the development. Part 2 of Annex IV of the Directive requires that the developer sets out a description of reasonable alternatives studied and providing an indication of the main reasons for selecting the chosen option.

11.2.2. Alternatives were considered in relation to the WWTP, sewers, river crossing point, long see outfall and storm water overflows. These included:

- The Do-Nothing Scenario
- Alternative locations for the proposal both for the WWTP and for the sewer infrastructure within the town and the town environs of Arklow.

Alternative treatment processes, including, primary and secondary settlement. secondary settlement options examined both biofilm and aeration systems.

- Alternative layouts and alternative design processes were also examined in relation to the WWTP. The various options have been explored in the context of various physical and environmental constraints and potential sensitive receptors. One of the main criteria for opting for the SBR system was the based on the sludge generation, treatment and transport implications.
- In terms of location, it was considered that sites with a greater combined distance from both the source centre and the coastal location were considered less favourable. On the basis of a preliminary evaluation three sites were identified as being the most suitable (IFI/Shelton Abbey, Kilbride and the subject site). These sites were then subject to a multi-criteria assessment and more detailed public consultation. The current site was deemed to represent a suitable site in terms of technical and environmental considerations.
- A detailed Interceptor Sewer options report was undertaken as part of the assessment of alternatives (See appendix 3.2 of EIAR). Given the fact that all untreated waste water outfall points discharge into the Avoca River, the North and South Quays were considered to be the only viable locations for the provision of an interceptor sewer.
- In terms of the sewer crossing point, crossing upstream of Arklow Bridge was not considered viable due to the proximity to the Arklow Town Marsh pNHA. Any crossing upstream of the bridge would also require very deep excavations. It was also considered that crossing the River at the shortest point could bring the proposal into conflict with the proposed works to be undertaken as part of the flood relief scheme.

- The locations of the outfall pipes for the Long Sea Outfall and the Storm Water Overflows were assessed and evaluated on the basis of hydrodynamic modelling and the assimilative capacity of the receiving waters.

- Alternatives in relation to odour control, revetment design, architectural design of the WWTP, sewer network design, were also assessed. Construction methods were also assessed as part of the evaluation of alternatives.

In my opinion reasonable alternatives have been explored and the information contained in the EIAR with regard to alternatives is comprehensive, provides a justification in environmental terms for the alternatives chosen and is in accordance with the requirements of the 2014 EIA Directive.

11.3. **Details of Competencies and Expertise of the Contributors to the EIAR**

11.3.1. The EIAR has been prepared on behalf of the developer by a multi-disciplinary team of competent and technical experts in accordance with the requirements of Article 5(3) of the amending Directive. The competencies of the experts are detailed in Appendix 1.1 of the EIAR. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality, and this is reflected in the information contained in the EIAR.

11.4. **Details of Public Consultations undertaken as part of the EIAR**

11.4.1. Details of the consultation entered into by the applicant as part of the preparation of the project and to inform the EIAR are set out at Section 1.5 of Vol 2 (Book 1 of 3). In addition to project-wide consultation, where appropriate, specific consultation with various bodies / stakeholders was undertaken in the preparation of the individual chapters. More general public consultation included drop-in information events and press releases in local media. Three separate periods of consultation took place between 2014 and 2017 each of which, was more than a month. This consultation helped inform the preferred site in terms of location, with the Old Wallboard Factory Site (current site) being generally considered as the most appropriate site. The consultations also highlighted concerns in respect of potential noise, vibration and odour impacts with the site being in such close proximity to sensitive receptors. Feedback was also sought from various other stakeholders including proscribed

bodies. The points raised as part of the feedback were fed into the EIAR. Details of the feedback are contained in Appendix 1.2 of the EIAR. On receiving the SID and CPO application, the Bord provided a period of nine weeks to invite submissions from the public and prescribed bodies.

11.5. **Environmental Factors**

11.5.1. The sections below address each of the environmental factors. The headings used in the EIAR are as follows:

- Traffic and Transportation
- Air Quality
- Noise and Vibration
- Biodiversity
- Archaeology, Architectural and Cultural Heritage
- Landscape and Visual
- Land and Soils
- Water
- Resource and Waste Management
- Population and Human Health
- Material Assets
- Major Accidents and Natural Disasters
- Cumulative and Interactive Effects

11.5.2. The direct, (and indirect - in most cases in the EIAR the direct and indirect effects were assessed together[7]) and cumulative effects of the proposed project on the specified factors is identified, described and assessed in the following sections. In this regard I have examined the EIAR and any supplementary information and the contents of submissions received.

[7] See submission No.14 A-C & 16 of Miss Clodagh O Donovan submitted at Oral Hearing which identifies and summarises the potential direct and indirect impacts arising from the project.

11.6. Traffic and Transportation

11.6.1. The relevant section of the EIAR is Chapter 7 which assesses traffic and transportation. The baseline conditions are set out in the EIAR and the existing road network and traffic distribution and patterns around the town are identified and described. The likely significant effects on traffic have been described and assessed during the construction phase and operational phase. The greatest potential for impacts on the local road network arises during the construction phase of the development.

11.6.2. The construction of the interceptor sewer is to be chronologically undertaken in 13 separate stages (Stages A-M) along the River Walk, South Quay, North Quay and the Marina Area. This will involve the temporary closure and restriction of access to roads and laneways, including traffic diversions near the areas where the works are to be undertaken. The trip generation associated with construction traffic and haulage routes for each of the stages are also identified described and assessed. Works on each stage will last between 2 and 9 months – depending on the stage. In some instances, works will take place on two separate sites simultaneously - both on the north and south quays. Construction of the WWTP will take place at the same time as work on the interceptor sewer. During a worst-case scenario, the projected am and pm peak traffic associated with the construction phase is estimated to be 124 PCU's (inclusive of staff, deliveries, and service traffic).

11.6.3. The likely significant effects are set out in Section 7.5 of the EIAR. The main streets anticipated to be affected during the construction phase are the North and South Quays, which during the worst period are anticipated to experience an increase in traffic levels of between 16%-22% during the am and pm peak. Harbour Road is expected to experience increases of between 21%-25%. Other streets in the wider area are likely to experience more modest increases in traffic associated with the construction phase of less than 10%. The EIAR also assesses the likely impacts on each stage of the construction works to be carried out (ie Stages A-M). Stage G (East of Bridgewater Shopping Centre), Stage H and Stage I, which involves a major diversion of traffic away from North Quay and onto the Seaview Avenue, will have a significant negative effect on traffic operations. A number of mitigation measures are to be put in place to address this traffic impact specifically in relation to the

construction phase. They include the preparation of construction management plans, mobility management plans and individual local traffic plans as part of the stage construction works.

11.6.4. The only cumulative impacts are likely to arise from work to be undertaken as part of the Arklow Flood Relief Scheme. Works associated with the scheme could also give rise to road closures and traffic diversions. Where works overlap, detailed management schemes will be put in place to minimise disruption.

11.6.5. Operational impacts will be negligible with an anticipated addition 10-20 trips per day on the road network.

11.6.6. I am satisfied that impacts in relation to transportation will be restricted to the construction phase and will therefore be temporary in nature. The baseline conditions have been identified and described in the EIAR. The likely significant impacts have been assessed. The most likely impacts will result from the closure of the North and South Quays diverting traffic onto Harbour Road and Seaview Avenue respectively. While these impacts will in my view be material and will result in an inconvenience on the amenity of the residents of Seaview Avenue, the impact will be temporary and can, to a certain extent, be managed and/or mitigated by measures that form part of the proposed scheme, and by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the proposed development would not have any long term unacceptable direct or indirect impacts in terms of traffic and transportation. I am also satisfied that significant cumulative impacts are not likely to arise, and that approval should not be withheld on the grounds of traffic impact.

11.7. **Air Quality and Climate**

11.7.1. Chapter 8 of the submitted EIAR assesses the potential for significant impacts on air quality. The assessment methodology is set out and the need for the proposal to comply with the AQS Regulations 2011 (SI No. 180 of 2011) is also acknowledged (See Table 8.2 of the EIAR). The baseline environment in relation to air quality and climate is identified and described. Arklow Town is located in Zone D in terms of ambient air quality. In terms of wider climate issues, it is noted that Ireland is likely to exceed its greenhouse gas targets.

11.7.2. The main potential impacts identified during the construction phase are likely to be fugitive dust and the potential for the release of fugitive asbestos fibres. There are numerous activities which will be employed during the construction phase which have the potential to generate dust. These include excavations, rock breaking, tunnelling, demolition, transporting material, traffic emissions and trenching. Asbestos has also been identified on the roof cladding of the Old Wallboard building. Demolition works could result in the emission of asbestos fibres into the ambient environment. Emissions from the diesel generator during the tunnelling could also result in additional air emissions. The identification of potential dust generating activity is robust and comprehensive.

11.7.3. In terms of the predicted impact, an air dispersion model was undertaken to assess the impacts arising from the construction works. North Quay, Harbour Road, South Green, Harbour Green and Seaview Avenue are anticipated to be most likely areas affected in terms of potential adverse impact on air quality as most construction activities are centred in this area – mainly associated with the interceptor sewer. The predicted impacts at these located were assessed for NO_2, $PM_{2.5}$ and PM_{10} (Days > $50_{ug/m}{}^3$). The predicted impacts for each of these pollutants at the above locations is estimated to be between 0.1 $_{ug/m}{}^3$ and 0.4 $_{ug/m}{}^3$, which is negligible and will ensure full compliance with the AQS Regulations.

11.7.4. No significant impact is anticipated from an air pollution perspective in terms of increased traffic arising from the proposal either in its construction phase or operational phase. Under a worst-case scenario, the proposal will contribute an estimated 0.006% of Irelands greenhouse emission by 2020.

11.7.5. In terms of cumulative impacts, again the EIAR makes reference to the Arklow Flood relief scheme as being the only project with the potential to contribute cumulatively in terms of air pollution. However, this scheme is unlikely to give rise to any material cumulative effects during the construction or operational phase.

11.7.6. A detailed monitoring programme for dust and asbestos control will be undertaken so as to alleviate any material impacts.

11.7.7. The potential impacts on sensitive receptors would be mitigated through the implementation of best practice dust control measures and dust monitoring. I am satisfied, subject to implementation of the mitigation measures, that impacts can be

avoided, managed and / or mitigated through good construction practice and that that proposed development will not have significant effects on the environment during the construction phase. The significant air quality issue during the operational phase is odour and this is assessed separately below.

11.7.8. I have considered the written submissions made in relation to air quality, dust generation and general nuisance associated with dust dirt and debris in the context of the contents of the EIAR. Having regard to the evaluation undertaken, including the air dispersion modelling exercises undertaken, I am satisfied that impacts in terms of increase levels of air pollution would negligible. Furthermore, any anticipated impacts can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, and with any mitigation measures associated with suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of air quality and that significant cumulative impacts are not likely to arise.

11.8. **Odour**

11.8.1. Having regard to the nature of the activity proposed, odour is identified as a potential problem, particularly from the WWTP itself and from the venting stacks along the route of the interceptor sewer. The EIAR sets out the baseline environment, setting out details of the location of the nearest sensitive receptors. It is noted that the existing wastewater discharge arrangements for the town are giving rise to some odour problems within the vicinity of the Avoca River. The baseline study indicated that no other sources of odour were detected in the Town.

11.8.2. The main sources of odour arise from the inlet pump sump, storm water holding tanks, screenings and grit disposal skips, sludge holding tanks, sludge thickeners and dewatering process, dewatered sludge skips and the supernatant sump. Odours from all the areas listed above, will be treated in a centralised odour control unit. The process building will be sealed and mechanically ventilated therefore it is considered that odour treatment is not required. The odour control unit would comprise of biological and carbon filters and the treated air would be discharged through a 17.5m high stack. It is estimated that the above sources will give rise to an odour concentration of approximately 183 odour units/ m^3, post treatment. An odour modelling assessment has been undertaken for the inlet works and process building.

The highest predicted ground level concentrations of odour at a distance of 98m from the source, at the site boundary is estimated to be 0.51 OU/m^3. This equates to approximately 16% of the standard odour unit limit of 3 OU/m^3.

11.8.3. 12 vent stacks will be located along the interceptor sewer at each of the tunnel shafts. Under worst case scenario an odour concentration of 1,323 OU/m^3, is anticipated. Odours will be vented via 7.6m high stack. The odour modelling assessment indicates that at 33 m away from the shaft, the highest predicted ground level odour concentration is 0.34 OU/m^3. Again, this is well below the limit of 3 OU/m^3.

11.8.4. No significant cumulative impacts are anticipated in respect of odour. There are no other planned developments in the vicinity which are identified as giving rise to odour generation. During the construction and operational phase no mitigation will be required. Monitoring of odour units will be undertaken at predetermined frequencies specified by the planning authority.

11.8.5. I have considered all of the written submissions made in relation to odour in the context of the contents of the EIAR. Having regard to the evaluation undertaken, including the air dispersion modelling exercises undertaken, I am satisfied that impacts in relation to odour would be avoided, managed and/or mitigated by odour control treatment measures that form part of the proposed scheme. With the incorporation of the mitigation measures the additional odours generated by the proposal would be imperceptible. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of air quality and that significant cumulative impacts are not likely to arise.

11.9. **Noise and Vibration**

11.9.1. Existing noise surveys were undertaken to establish the baseline environment in Arklow Town. Ambient noise levels within the town were recorded to range between 44-63 d(B) L_{Aeq}. The main noise source was attributed to traffic. Details of construction noise limits and significance criteria in accordance with criteria BS 5228 are set out in the EIAR. Details of vibration limits and significance criteria in accordance with BS 5228-2 and BS 7385-2 are also set out in the document. The main source of ground borne vibration during construction will be due to tunnelling

and sheet piling during the construction of the interceptor sewers and the reclamation works along the South Quay Wall.

11.9.2. The main generators of noise during the construction phase associated with the WWTP are identified as site preparation, building construction, revetment construction and sea outfall construction. The main noise sources associated with the interceptor sewer include the open trench works (soil stripping, excavation, piling, rock breaking, pipe laying, backfilling, reinstatement), shaft construction, tunnelling and sheet piling.

11.9.3. A noise modelling assessment was undertaken. A 10 dB(A) reduction was incorporated into the assessment on the basis that all works will be undertaken behind hoarding. It also assumes that all equipment is operating on site simultaneously. Construction activity will operate 7am – 7pm Monday to Friday and 8am to 2pm on Saturday. Tunnelling works will operate 24/7 for approximately 1 year.

11.9.4. For the construction of the WWTP, anticipated noise levels at the nearest noise sensitive receptor for site preparation works, general activities and building construction range between 51-56 d(B) $L_{Aeq.}$ Similar noise levels at the nearest sensitive receptors are calculated for revetment construction.

11.9.5. The construction of the long sea outfall may be undertaken by either horizonal directional drilling, flood and float method and bottom-pull method. The latter two methods are assessed in term of noise modelling as these two methods of construction would result in greater noise generation. The predicted noise levels associated with the with the construction of the long sea outfall amounts ranges between 62-63 d(B) $L_{Aeq.}$

11.9.6. Where all 3 activities were undertaken at the same time (ie the construction of the WWTP, Revetment and Long Sea Outfall) the anticipated noise levels would range between 64-65 d(B) $L_{Aeq.}$ This, the EIAR concludes would comply with the 65 d(B) L_{Aeq} noise limit under BS 5228. The EIAR does acknowledge however that the Noise Impact Rating would, compared with ambient noise levels, be classed between moderate and significant.

11.9.7. In terms of the interceptor sewer, the airborne noise generating equipment is specified. The predicted noise levels arising from construction activities are set out at various distances in Table 10.24 of the EIAR and are summarized below:

Predicted noise level at	
10m	65-67 d(B) L_{Aeq}
20m	53-60 d(B) L_{Aeq}
30m	50-57 d(B) L_{Aeq}
40m	47-54 d(B) L_{Aeq}

11.9.8. Other anticipated noise generated levels associated with the construction of the interceptor sewer are:

Distance	15m	30m	45m	60m
Shaft Construction	67 d(B) L_{Aeq}	61 d(B) L_{Aeq}	57 d(B) L_{Aeq}	54 d(B) L_{Aeq}
TBM Tunnelling	65 d(B) L_{Aeq}	59 d(B) L_{Aeq}	55 d(B) L_{Aeq}	53 d(B) L_{Aeq}

11.9.9. The EIAR noise modelling concludes that the airborne noise for tunnelling works during the daytime for the interceptor sewer show compliance with the daytime noise limits of 65 d(B) L_{Aeq} can on the whole be complied with. The tunnelling works for the evening and night-time show exceedances of these limits.

11.9.10. In terms of ground borne noise, 54 receptors are identified as being potentially affected by works to be undertaken. The anticipated impacts are assessed in the EIAR as follows:

Impact Classification	**No. of Receptors affected**
Negligible	20
Low	6
Medium	11
High	6
Very High	11

11.9.11. The period for which the receptor will be negatively affected will range from 1 to 6 days. Temporary re-housing of receptors will be considered as a mitigation measure.

11.9.12. In terms of vibration, the EIAR presents the calculated ground borne vibration levels associated with the interceptor sewer, (sheet piling, and tunnelling) that may be experienced at the nearest sensitive receptor. All 54 receptors identified are anticipated to be in good compliance with vibration limits. The predicted limits for the sheet wall piling are likely to be much higher ranging from 2.9 to 5.9 PPV (mm/s), however this is still below the level of 10 PPV (mm/s) where vibration levels are likely to be intolerable for any more than a brief exposure to this limit.

11.9.13. The construction of the interceptor sewer at Arklow Bridge could potentially impact on the structural integrity of the bridge. Vibration levels will be monitored at continuously at the bridge.

11.9.14. The EIAR also models anticipated noise levels in sensitive receptors in terms of construction traffic. Harbour Road, South Green and Seaview Ave are identified as being the most vulnerable to increased noise levels as a result of construction traffic. Only Seaview Avenue is identified as potentially being adversely affected. Noise levels are predicted to increase by c. 5 d(B)A, which is rated as moderate.

11.9.15. In terms of operational impacts, the predicted operation noise levels at the site boundary of the WWTP is estimated to be between 2 and 2.5 d(B) L_{Aeq}, resulting in an overall noise level of 47 d(B) $L_{Aeq.}$ The increase in predicted noise therefore is classed as being imperceptible during the operational phase.

11.9.16. The cumulative impact arising from other works to be undertaken refer again to the Arklow Flood Relief Scheme. Having regard to the nature of both schemes, certain works cannot occur simultaneously, namely works along the South Quay. River dredging is identified as having potentially the greatest impact in terms of noise associated with the Arklow Flood Relief Scheme. Should dredging occur at the same time as the proposed development, the overall predicted impact would be 71 d(B) $L_{Aeq.}$

11.9.17. The EIAR sets out a series of mitigation measures to attenuate noise and vibration including specific mitigation measures for tunnelling and sea-outfall construction.

11.9.18. I have considered all of the written submissions made in relation to noise and vibration impacts in the context of the contents of the EIAR. Having regard to the

evaluation undertaken, including the noise modelling exercises undertaken, I am satisfied that impacts in relation noise and vibration have been identified. I also acknowledge that not all noise and vibration impacts can be avoided, managed and/or mitigated to the extent that the proposed development will not affect the amenity of sensitive receptors in the vicinity of the route of the works to be undertaken. This is particularly the case along the route of the interceptor sewer where pile driving and tunnelling is to take place.

11.9.19. Notwithstanding the conclusion reached in respect of the inability of the proposed measures to fully mitigate the noise and vibration impacts, and while such impacts will be temporary in nature, it is considered that the environmental effects would not justify a refusal of planning permission having regard to overall benefits of the proposed development.

11.10. **Biodiversity**

11.10.1. Chapter 11 of the submitted EIAR assesses and evaluates the potential for significant impacts on biodiversity.

11.10.2. The impact of the proposed development on European sites is addressed in detail in the Appropriate Assessment section of this report. In summary the project site does not overlap or adjoin any European or nationally designated sites. On the basis of separation distance and the lack of direct ecological or hydrological connectivity, it is concluded that the proposed development is not likely to have significant effects on any European site. The nearest Natura 2000 site, the Buckroney-Brittas Dunes and Fen SAC (Site Code 000729) is located distance of c. 4.5 km to the north of the site. The proposed development is not hydrologically connected to this site and the development will not result in direct or indirect loss or disturbance to habitats or species associated with this European site.

11.10.3. In terms of national designations, It is noted that the Arklow Town Marsh (Site Code 001931) is located on the north side of the Avoca River to the immediate west of Arklow Bridge. Works undertaken as part of the interceptor sewer will encroach on this pNHA.

11.10.4. The terrestrial study area relates to all areas relating to the WWTP, the interceptor sewers and the revetment area. The aquatic study area relates to relates to the

mouth of the Avoca river and the area surrounding the long sea outfall pipe in the Irish Sea. The biodiversity section of the EIS seeks to identify the direct and indirect effects on wildlife. Potential impacts to biodiversity associated with the proposed development include habitat loss, disturbance and impacts arising from pollution. Consultations were held with the EPA, IFI and the NPWS. The assessment of impacts is supported by a comprehensive range of ecological surveys undertaken between June 2016 and February 2018. The following surveys have been undertaken:

- 6 habitat flora and breeding bird surveys,
- 5 Invasive plant species surveys,
- 6 bat surveys at the WWTP site, and along the Avoca river and Arklow Castle
- 8 waterbird surveys
- An estuarine and marine benthic survey
- Estuarine walkover survey
- A freshwater micro-invertebrate survey

11.10.5. A detailed description of the surveys is given in section 11.2.6 of the EIAR. The scope of these surveys is noted and is considered to be comprehensive and robust. Information is also drawn from other available desk studies.

11.10.6. The Habitats are described in detail as part of the baseline study. Separate habitat descriptions are provided in the EIAR for:

- The Alps SWO and Stromwater Storage Tank
- The River Walk and South Quay
- The North Quay
- WWTP Site

11.10.7. The EIAR notes that the biodiversity value upstream of the Arklow Bridge is higher than that downstream as the area upstream has not been subject to the same level of development. Surveys also recorded the presence of a number of invasive species within and surrounding the site.

11.10.8. 22 waterbird species were recorded during the various surveys undertaken, three of which (Red-throated Diver, The Greenland White -fronted Goose and the Kingfisher) are Annex 1 listed Birds under the Habitats Directive. Passerine Birds were also recorded along the riverbank and in the vicinity of the Alps.

11.10.9. The terrestrial mammal survey Identified the presence of commuting and foraging bats within the site at Arklow Castle, Arklow Bridge and at the WWTP. Evidence of otter spraints were recorded along the banks of the Avoca. Evidence of fox, pygmy shrew, mice and rats were also recorded throughout the site.

11.10.10. In term of marine mammals, both the harbour porpoise and the bottle-nosed dolphin have been recorded within the coastal area around Arklow, there were no sightings however during the 30 Marine Mammal Observations carried out as part of the site investigation surveys undertaken for the project. Both these species are listed in Annex II of the Habitats Directive. There were however sightings of harbour and grey seals.

11.10.11. In terms of the fish survey, reference is made to various IFI surveys undertaken from 2008-2018. 21 species were recorded (See table 11.6 of EIAR). The Avoca River is an important salmonid water with populations of Salmon, Sea Trout and Brown Trout. River Lamprey were also recorded, although the section of the River surveyed does not provide suitable spawning habitat for salmon and lamprey species.

11.10.12. The intertidal habitat of the Avoca River Estuary is described as highly modified. No marine invertebrate epifauna were noted within the estuary. The benthic macro-invertebrate community of the Avoca River is largely dependent on salinity and sediment type but is somewhat reduced due to the modification of the marine and river environment by human activity. Thus, no rear or protected micro-invertebrate species were recorded. I'm satisfied that the baseline receiving environment has been identified and described in a comprehensive and robust manner in the EIAR.

In terms of likely significant effects, the EIAR describes them as follows:

- The impact on the Alps and Riverwalk area will result in the removal of amenity grassland and some mature deciduous trees as this is described as being of 'negative local significance' during the construction phase.

- Because biodiversity on the South Quay, downstream of Arklow bridge is of less significance, the proposal will result in less tree removal and a lesser impact on amenity grassland. Thus, the impact is described as of being of 'moderate local significance'.
- The biodiversity of the north quay is low and for this reason the removal of the young ornamental trees is assessed as being of 'slight negative local interest'.
- The construction stage of the development will give rise to some disturbance of birds, including the Annex 1 birds. However, the impact will be temporary and is assessed as 'not being significant'.
- The removal of trees along the river front and the works to be undertaken at Arklow Bridge together with the demolition of buildings for the WWTP, will result in the removal of bat boxes and roost sites which will affect roosting opportunities. Reduced feeding areas and disturbance from lighting will also impact on bat habitats during the construction period. The impact is described as 'of a slight negative effect' during the construction phase.
- Marine mammals are likely to be disturbed during works associated with long sea outfall, construction of the revetment and other aquatic works. However, the marine observations undertaken suggests that the area does not hold important concentrations of marine mammals.
- The intertidal and estuarine habitats of the study area are of low ecological value. Nevertheless, the provision of the interceptor sewer within the river will result in the permanent loss of habitat. Construction works could also result in spillages (including Bentonite) and higher sedimentation run-off, which could also affect aquatic species. Such impact could arise in the case of the construction of the long sea outfall pipe, the new revetment and the interceptor sewer. Direct effects on Natura 2000 sites will not arise.
- The EIAR assesses the cumulative impact in conjunction with the Arklow Flood Relief scheme, which is still at design stage. Dredging and construction work associated with the scheme is identified as a possible cumulative impact which could exacerbate the disturbance of aquatic fauna.
- During the operational phase, any anticipated impacts are largely positive, particularly on aquatic ecology as a result of improved water quality. New building at

the WWTP may also provide opportunities for future bat roosts. Cumulative impacts are also considered to be positive as a riverbank public realm plan will be developed and will augment natural habitats as part of the flood relief scheme.

11.10.13. Mitigation measure to off-set potential adverse impacts arising from construction include planting of trees and wild flowers and reinstating amenity grassland, the provision of bat and bird boxes, provision of a detailed lighting plan for the WWTP and the provision of a detailed management plan to ensure minimal disturbance of aquatic fauna during construction. The residual impacts, with the employment of appropriate mitigation measures, are considered to be negligible.

11.10.14. There are very few concerns raised in the submissions about the impact of the proposal in relation to biodiversity nor are any concerns raised in the submissions in relation to the Biodiversity chapter contained in the EIAR. I am satisfied that the impacts that are predicted to arise in relation to biodiversity are of a local scale and confined to the construction phase of the development. Furthermore, it is considered that these impacts can be avoided, managed and / or mitigated by measures that form part of the proposed scheme. The operational phase, which will result in the eradication of raw sewage being discharged into the Avoca River, will result in a significant improvement in water quality which in turn will be beneficial to aquatic biodiversity. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of biodiversity in the long-term. I am also satisfied that significant cumulative impacts are not likely to arise, and that approval should not be withheld on the grounds of such cumulative effects.

11.11. **Cultural Heritage**

11.11.1. Chapter 12 of the submitted EIAR describes the effects of the proposed development on archaeology, architectural and cultural heritage. Consultations and a desk-top survey were undertaken with statutory and voluntary bodies in this field of study. Terrestrial and aquatic field inspections were also undertaken. It is noted that a number of archaeological investigations have been undertaken in the study area in the past.

11.11.2. In terms of marine archaeology, the EIAR states that there are no known or recorded shipwreck sites in the survey area associated with the long sea outfall. The likely significant effects on cultural heritage (archaeology and architectural heritage) have been assessed under section 12.4 and are summarised below.

11.11.3. The main potential for impact arises from the construction of the interceptor sewer where the proposed excavation and tunnelling works could destroy or damage previously unrecorded archaeological features. The underpinning works required at Arklow Bridge will also require excavations which could in turn have negative consequences on any potential archaeological material which is uncovered. The WWTP is located within reclaimed lands and no features of archaeological potential were noted during the extensive site investigation works on the WWTP site. There are no recorded archaeological marine features identified along the alignment of the marine outfall or the Storm Water Overflow at the revetment, although disturbances to the sea bed, and alterations to the revetment could potentially unearth deeper features of interest. The only works to be undertaken which could potentially impact on the architectural heritage of the town relates to the works to be undertaken on Arklow Bridge where the proposed works could negatively impact on the fabric of the protected structure and in the vicinity of Arklow Castle where the storm water overflow tank is to be located at the Alps and the western end of the proposed interceptor sewer. Mitigation measures will be put in place to ensure that the historic and structural integrity of the structures identified remains unaltered. In terms of cumulative impacts, reference is again made to the Arklow Flood Relief Scheme and its potential impact, in combination with the construction works to be carried out under the current proposal, on the historic fabric of the Bridge. Any potential impact will be the subject of strict monitoring. No other potential cumulative impacts are identified.

11.11.4. The EIAR reasonably, in my view, assesses that the operational phase of the development will have no likely significant effects on terrestrial or aquatic archaeology or architectural heritage. No indirect impacts are foreseen.

11.11.5. Archaeological supervision of future works, both terrestrial and aquatic is proposed as the main mitigation measure.

11.11.6. I am satisfied, on the basis of the information contained in the EIAR, that the impact of the proposed development would not be significant in the context of the wider archaeological terrestrial or aquatic landscape. Given that the site investigations already undertaken and the absence of any specific mention of significant archaeology features in historic records relating to the study area no significant archaeological impact is anticipated. I consider that archaeological supervision of all works within the area of the proposed works site is warranted, and that this would be sufficient to mitigate any potential impacts on undiscovered archaeology.

11.11.7. I have considered the submissions made in relation to cultural heritage. Having regard to the above assessment carried out in the EIAR, I am satisfied that impacts in relation to archaeology, architecture and cultural heritage would be avoided, managed and/or mitigated by measures that form part of the proposed scheme, together with mitigation measures incorporated into suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of general cultural heritage. I am also satisfied that significant cumulative impacts are not likely to arise and that approval should not be withheld on the grounds of such cumulative effects.

11.12. **Landscape and Visual.**

11.12.1. The EAIR sets out the baseline context as it relates to the urban, terrestrial riverine and marine environment. The Riverwalk is highlighted as an attractive environment and Arklow Bridge is also highlighted as a most impressive protected structure, particularly the stone arches when viewed from downstream. The eastern end of North Quay and the Old Wallboard site at Ferrybank, where the WWTP is to be situated, is described as an expansive derelict port related area. The revetment area is also described in the EIAR.

11.12.2. In terms of landscape designations, reference is made to the various statements in the Arklow LAP which notes the potential of the waterfront area which can contribute to the quality of the public realm that maintains the coast and river as accessible, attractive and environmental amenity area. In relation to the proposed development, significant and sensitive visual aspects of relevance include views along to and from the river edge, the coastal waterfront including amenity areas and views from residential areas.

11.12.3. The EIAR identifies the main visual impacts associated with the interceptor sewers, The Alps Stormwater overflow and storage tanks to mainly arise from compounds erected during the construction phase along the route. This compound will comprise of hoardings surrounding construction/working areas, including the working areas associated with the river crossing. The visual impacts are assessed as being locally slight to moderate temporary short-term effects.

11.12.4. The works to be undertaken on Arklow Bridge are described, the visual impact will only be apparent during construction and will be reinstated during the operational phase.

11.12.5. In terms of cumulative effects, the Arklow Flood Relief Scheme will include localised additions to quay walls river embankments etc. They are again described as temporary and short-term and not significant.

11.12.6. During the operational phase the WWTP is identified as being the major change associated with the proposal when viewed from the wider public realm within the town. However, the impact is described and assessed as acceptable having regard to the history of industrial development on the site and the area surrounding the site. The area has a long association with large industrial buildings and facilities. Furthermore, it is argued that the WWTP has been designed to be of high architectural quality. The EIAR acknowledges that the effect on the landscape / townscape character may be perceived as being negative in the immediate local area. However, the impact in the context of what currently exists on site, will result in a building with a reduced impact on the skyline and this is positive according to the visual assessment. The perceived impact is assessed as being initially significant/moderate and negative, however impact will be considered more neutral over time as the building becomes more accepted and the lands surrounding the site become more developed.

11.12.7. The revetment will be raised by approximately 2 meters but will be otherwise consistent in character with the existing revetment.

11.12.8. In terms cumulative impacts, reference is made to extant permission in the area including the mixed-use development on the adjacent Foudi Site granted under Reg. Ref. 15/587. It is likely that other such developments will occur in the wider area. The anticipated impact will be a more intensive urban environment in which the WWTP

will be located. The Arklow Flood Relief scheme is identified as having little cumulative impact in visual terms. A series of mitigation measures to help reduce and ameliorate the visual impact through, hoarding to conceal construction works, and landscaping in the form of re-instatement of trees and planting in the long term, are set out in the EIAR.

11.12.9. No indirect visual impacts are anticipated in the construction or operational phase.

11.12.10. I have considered all of the written submissions made in relation to landscape and visual impacts. I am satisfied that landscape and visual impacts will occur, and will to some extent, be managed and/or mitigated by measures that form part of the proposed scheme, and with suitable conditions. Furthermore, I am satisfied that the construction impacts from a visual perspective will be temporary and short-term. The WWTP will be have a more permanent visual impact, however I would agree with the conclusions set out in the EIAR that the external elevations of the main buildings are of high architectural quality. The proposal also represents a visual improvement over the derelict building which currently exist on site. I am therefore satisfied that the proposed development would not have any unacceptable direct visual impacts and that significant cumulative impacts are not likely to arise.

11.13. **Land and Soil**

11.13.1. Chapter 14 of the submitted EIAR assesses and evaluates the potentially significant impacts on land, soils and hydrogeology. The site conditions were assessed using available data and through geotechnical and environmental site investigations which involved logging soil and subsoil types. Historic ground investigations within the study area were also consulted. The EPA and Wicklow Co. Council were also consulted. Intrusive and non-intrusive investigations were undertaken for The Alps storm water tank, the Long Sea Outfall and the WWTP. The above consultations and investigations established the baseline environment. Ground investigations found no contaminated land at the Alps site or along the alignment of the interceptor sewer, with the exception of a small area along the eastern section of the interceptor sewer. With regard to the WWTP, it is noted that prior to 1977, lands to the north of the site including the Bridgewater Shopping Centre and the recreational centre and running track accommodated a landfill. The WWTP previously accommodated a chemical works, an explosives factory and a gypsum plant. The underlying soils are a mixture

of brown sand and gravel and phosphogysum deposits to the north of the site which are slightly radioactive. In terms of groundwater, the groundwater levels at the Alps and along the interceptor sewer are similar to the adjoining river level. Under the WWTP, groundwater was found to have elevated concentrations of metals including copper and zinc. There are also elevated levels of methane and carbon dioxide present in the soil at the WWTP site.

11.13.2. The regional bedrock geology comprises of an Ordovician Kilmacrea Formation. The underlying soils are a mixture of man-made ground and boulder clay. The site lies over a locally important aquifer of low vulnerability. According to GSI records there are a total of 9 wells (domestic, agricultural and industrial) located in the study area, and 14 within a 2km radius of the study area. Along the alignment of the long sea outfall a total of 15 sediment samples were taken, 14 of the 15 samples were classed as non-hazardous. 8 of the samples were classed as marginally contaminated.

11.13.3. In terms of likely significant effects, a range of potential effects are identified including compression of substrata, loss of bedrock, excavation of soils, dewatering, with potential impacts on groundwater levels, quality and flow. Most of the impacts identified are assessed as being imperceptible. The impact from potential dewatering, removal of bedrock and pollution from construction activities are assessed as being ‘slight’.

11.13.4. In terms of the interceptor sewers, similar potential impacts are identified, and with the exception of dewatering, which is assessed as having a ‘slight impact’, potential pollution from construction activities are otherwise assessed as being ‘imperceptible’.

11.13.5. The potential impacts identified associated with the WWTP and the revetment area are compression of substrata, the removal of contaminated soils, impact on groundwater quality and flow, and impacts on surrounding grounds. There are no sensitive sites in the vicinity, so any mobilisation of contaminated soils is assessed as being of ‘imperceptible impact’. Excavation and dewatering activities have the potential to induce ground movement and as such the impact is assessed as being ‘slight’.

11.13.6. The long sea outfall and revetment works are not considered to have any adverse impacts on the geological and hydrological attributes of the receiving environment.

11.13.7. The operational phase of the development is assessed as having a 'neutral long-term impact' on land soils and hydrogeology as it will result in little or no disturbance.

11.13.8. A number of mitigation measures are set out to reduce the potential for spillages and contaminated run-off occurring. Monitoring of ground settlement will also take place. I note that this section of the EIAR does not assess cumulative effects which could arise as a result of the simultaneous works which could be undertaken with the Arklow flood relief scheme. These cumulative impacts are addressed in the witness statement of Mr. Andrew Wilkins and Owen Wyse (Submission No. 10 at the Oral Hearing). The assessment concluded that no cumulative impacts are anticipated, (see section 14.2.25 of this report)

11.13.9. I note issues concerning land, soil and hydrogeology did not form central concerns in the submissions made in respect of the application, nevertheless I am satisfied that impacts identified on land, soil and hydrogeology can be avoided, managed and/or mitigated by measures that form part of the proposed scheme and with additional mitigation measures incorporated into suitable conditions should the Board deem it appropriate to grant planning permission for the development. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of land and soil.

11.14. **Water**

11.14.1. This section of the EIAR addresses issues in relation to water quality, coastal processes and flood risk. In terms of the baseline environment the following is noted in the EIAR:

- It is noted that the location of the proposed outfall is in waters that are designated as coastal waters under the WFD. The plume from any discharge may extend into designated transitional waters. There are three target values of particular significance for the marine outfall. These are e-coli, Intestinal enterococci (as per the Bathing Regulations 2008) and Dissolved Inorganic Nitrogen (DIN) as per the Surface Water Regulations. The average DIN concentrations in the Coastal Area is 0.154mg/l. The nearest beaches Clogga beach to the south and Brittas beach to the north are assigned 'excellent status' in terms of the Bathing Regulations.

- The Avoca River / Estuary is designated as a transitional water body under the WFD and has been given ‘moderate’ water quality status by the EPA. The latest Biological River Quality Surveys Report (2018) indicates poor ecological conditions with toxic effects due to acid mine drainage at Avoca Bridge. EPA have assigned a current Q Rating of ‘less than 4’ which is classed as ‘slightly polluted’
- The Avoca Estuary is designated as being as ‘at risk’ status.
- In terms of coastal processes, the revetment along the eastern boundary of the WWTP has stabilised and ‘rigidized’ the coastline. This has resulted in a natural deepening of the seabed adjacent to the revetment of between 0.5m and 2m.
- In terms of flooding, Arklow has experienced flooding including damage to property on 18 occasions since 1986. The WWTP is not located on a historic flood plain and is protected by coastal inundation by the revetment.

11.14.2. In terms of likely significant impacts, a number of potential impacts are identified during the construction phase which could alter the hydrological regime, albeit temporarily. The impacts are identified as potential spillages which could affect water quality or could alter existing drainage in the town as part of the construction of the interceptor sewer.

11.14.3. The revetment upgrade could alter the level of natural seabed loss to the front of the embankment. But any potential dispersion of material is expected to be naturally deposited in the study area. Moreover, this coastal area is relatively sheltered by the entrance to Arklow Harbour.

11.14.4. The construction of the long sea outfall could give rise to increased sedimentation and local sediment disturbance and this is identified as the only major potential impact in the EIAR. However, the area is quite sheltered from the Harbour and it is not anticipated that the works will significantly alter the natural sedimentation processes arising the construction of the long sea outfall.

11.14.5. The construction of the interceptor sewers is identified as potentially exacerbating flood risk, primarily through narrowing the river channel with a construction of a temporary causeway to facilitate the in-river works along the South Quay. However, with the phasing of works such that the bridge underpinning and upstream works are

complete, before commencing the temporary causeway downstream, there is anticipated to be no residual effect on flood risk during construction.

11.14.6. Cumulative impacts could arise during the construction phase with the simultaneous construction of the Arklow Flood Relief Scheme. However, with proper co-ordination between the schemes ensuring that the underpinning and dredging of the arches take place prior to the construction of the temporary causeway downstream, the potential flood risk should be avoided.

11.14.7. During the operational phase, the proposal is identified as having a positive effect on water quality with the diversion of untreated sewerage away from the river and to a new WWTP which will treat effluent to secondary level before discharging it into the Irish Sea via the long sea outfall pipe. The impact is deemed to be long term, significant and positive. In terms of the impact on coastal waters, model simulations set out in Appendix 15.2 of the EIAR indicate that, even under worst case scenarios where high concentrations of effluent are discharged, the modelling shows that bacterial contamination will be well below the limits specified in the Bathing Regulations.

11.14.8. No change in the existing coastal processes are anticipated in respect to the revetment upgrade or the long sea outfall during the operational phase. The WWTP will continue to be at a low risk of flooding during its operational phase.

11.14.9. Finally, this section of the EIAR sets out a series of mitigation measures which will protect water quality and avoid the potential for flood risk during the construction phase. No mitigation measures other than monitoring will be required during the operational phase.

11.14.10. I have considered all of the written submissions made in relation to water, and in particular flood risk in the context of the information contained in the EIAR. I am satisfied that the impacts, arising particularly during the operational phase, will be positive and beneficial. Any adverse impacts particularly in relation to flood risk and water quality identified during the construction phase would be avoided, managed and/or mitigated by measures that form part of the proposed scheme, and with appropriate mitigation measures incorporated in conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect

impacts other than positive impacts in terms of water and that cumulative effects are not likely to arise.

11.15. **Resource and Waste Management**

11.15.1. The baseline conditions set out the details of the amount of construction and demolition waste treated in Ireland in 2014.The operational waste associated with the development will essentially relate to sludge handling.

11.15.2. Approximately 220,000 tonnes of excavated material will be generated during the construction of the proposed development. Of this it is estimated that 35,000 tonnes of material will be contaminated or hazardous (mainly asbestos materials and contaminated land) and will require removed to a specialised licenced facility. An estimated 185,000 tonnes of material will require removal from site during the construction phase of the development. Demolition excavation and removal will take place over a two-year period. All waste will be tested on site prior to removal. Waste will be treated in accordance with the principles set out in the waste hierarchy.

11.15.3. Cumulative impacts may arise will additional dredged material from the Arklow Flood Relief Scheme. Other construction projects during the course of the construction of the current proposal could also give rise to additional waste material.

11.15.4. The main waste arising from the operational phase relates to Sludge. The anticipated volume of dewatered sludge cake is estimated at 14 m^3 per day or one truck per day. Screenings from the inlet works will amount to 1.6 m^3 per day. The design life of the WWTP is 50 years, after such date it will be decommissioned.

11.15.5. Mitigation measures include the preparation of a construction and demolition waste management plan which will include a pre-demolition waste audit, source segregation and treatment of waste in accordance with the waste management hierarchy. The overall impact arising from C&D waste is considered to be ‘slight’ negative and short term. No mitigation measures are required during the operational phase as the impact is deemed imperceptible.

11.15.6. No major concerns were raised in any of the written submissions made in relation to waste. However, I am satisfied that any adverse impacts in relation to waste identified during the construction phase would be avoided, managed and/or mitigated by measures that form part of the proposed scheme, and with the

incorporation of suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of waste and that cumulative effects are not likely to arise.

11.16. Population and Human Health

11.16.1. Chapter 17 of the EIAR addresses population and human health issues. Effects are considered in the context of socio-economic considerations, land use and health and safety. Other impacts that have the potential to impact on humans such as effects on soil, land and hydrogeology, water, air, noise and vibration, traffic and landscape are discussed in the respective chapters of the EIAR.

11.16.2. Section 17.2.6 of the EIAR categorises the baseline environment and sets out the methodology employed to assess the impact of the proposal on humans, including human health. The predominant land uses and amenity areas within the town are identified and described. Arklow has been designated as a level 3 - Large Growth Town in the Regional Planning Guidelines and the County Development Plan with proposals to accommodate a large population increase from 14,000 to ultimately 23,000. It is also described as a large employment centre, although development has been held back by the lack of adequate WWT facilities. The lack of wastewater treatment is also identified as affecting water-based recreation and amenity and presents a threat to the health of population coming into contact with the river. Details of the demographic profile of Arklow Town are set out.

11.16.3. The likely significant effects identified during the construction phase are traffic and parking restrictions and diversions. The is also the potential for significant traffic congestion during the works to be undertaken at Arklow Bridge and along the quays, where there will be rolling road/street closures to facilitate the interceptor sewer. Traffic levels along the Mill Road will also increase with construction traffic associated with the WWTP.

11.16.4. In terms of amenity, the proposed construction works will result in the temporary closure of the Riverside Walk. The commercial businesses along the Riverside Walk and the residential units adjacent to the South Quay will experience a significant negative effect due to noise vibration and visual intrusion. The erection of hoarding

associated with construction on a rolling basis will also have an adverse impact on the visual amenities of the area.

11.16.5. The temporary closure of sections of the Quays during the construction of the interceptor sewers will have a severance effect on the local residents, businesses and people using the riverside for amenity purposes.

11.16.6. In terms of human health, it is stated that apart from the annoyance and nuisance factor associated with noise and vibration, no significant effects on human health are likely to arise.

11.16.7. During the operational phase, the WWTP will have a visual impact, however the EIAR argues that the impact will be positive as it is of a high architectural standard and will replace an existing derelict structure. Odour generation is identified as a potential impact arising from the operational phase. However, the evaluation undertaken in Chapter 9 suggests that with the mitigation measures to be employed, odour emissions will be well below the limit values and therefore will have no significant effect on amenity. The introduction of better wastewater treatment facilities will have, according the EIAR evaluation, a profoundly positive impact on business, tourism and employment. Clean water in the Avoca River will also have positive impacts in terms of recreation and amenity on the River.

11.16.8. The cumulative impacts are again identified in the context of the Arklow Flood Relief Scheme. The reinstatement of the public realm along the riverside is stated as being a major benefit on the completion of both schemes.

11.16.9. Numerous mitigation measures are set out in the EIAR which will reduce the impact particularly during construction. Proactive consultation with local residents and businesses are one of the mitigation measures to be employed. Many of the mitigation measures set out in other chapters would also be applicable to population and human health.

11.16.10. I have considered all of the written submissions made in relation to population and human health and the relevant contents of the file including the information contained in the EIAR. I am satisfied that the potential for impacts on population and human health can be avoided, managed and/or mitigated by measures that form part of the proposed scheme and with suitable conditions, to an acceptable extent. I acknowledge the inability of the proposed measures to fully mitigate against the

construction impacts on the amenity of businesses and local residents in the area, however this such impacts will be temporary in nature.

11.16.11. The proposed works will have a profound positive impact on the water quality of the Avoca River and will ensure compliance with standards in the UWWT Regulations (SI 254 of 2001) and with the overarching objectives in relation to water quality as set out in the WFD. It is therefore considered that the temporary adverse effects in terms of annoyance, nuisance and disruption would not justify a refusal of planning permission having regard to overall benefits of the proposed development.

11.16.12. I am also satisfied that significant cumulative effects are unlikely to arise with the undertaking of the works associated with the Arklow Flood Relief Scheme.

11.17. **Material Assets**

11.17.1. Material Assets can be taken to mean built services and infrastructure. The existing infrastructure in relation to land-use and property, electricity, telecommunications, gas, water supply, sewer network and drainage infrastructure are identified and described in the EIAR. The likely significant effects are assessed under separate sub-headings below:

11.17.2. <u>Land Use and Property</u>

11.17.3. Some land will be permanently and temporarily acquired in order to facilitate working areas during the construction phase. The impacts are assessed as being ‘slight, negative and short-term’ in the case of the temporary acquired land and ‘slight, negative and long-term’ in the case of the permanently acquired land.

11.17.4. <u>Electricity</u>

11.17.5. In terms of electricity, poles and local re-routing of cables will be required, particularly along River Walk and South Quay. This may result in temporary power-outages. Affected parties will be notified of this in advance. Where such prolonged disturbances occur, this impact is assessed as being temporary and negative. During the operational phase, the WWTP will result in a demand of electricity. The new connection will require a new 10kV connection. The impact of the proposed development on the electricity network is described as being ‘slight, negative and temporary’.

11.17.6. Telecommunications

11.17.7. Local re-routing of telecommunication ducts will be required as part of the interceptor sewers. The contractor will ensure that constant contact is maintained with the service provider to ensure that interruptions to the service is minimised. Tunnelling of the interceptor sewer on the North Quay will minimise the risk of interaction with the existing telecommunication infrastructure. The impact on telecommunication infrastructure is assessed as 'slight negative and temporary' during the construction phase.

11.17.8. Gas

11.17.9. On the South Quay all gas pipes are located within the roadway. The contractor will be obliged to put in place measures to ensure that there are interruptions to existing utilities and services. The likely effect of the proposed development on existing gas mains will be 'slight negative and temporary'.

11.17.10. Water

11.17.11. The watermains adjacent to the Alps SWO and storm water storage tank will not be impacted by the construction of the interceptor sewer. Along the South Quay and the North Quay tunnelling should minimise the risk of interaction with existing water supply infrastructure. The contractor will ensure that constant contact is made with the service provider to ensure that interruptions to the service is minimised. Tunnelling of the interceptor sewer on the North Quay will minimise the risk of interaction with the existing telecommunication infrastructure. The impact on telecommunication infrastructure is assessed as 'slight negative and temporary'.

11.17.12. Sewer Network

11.17.13. During the enabling works, sewer network diversions will be undertaken and temporary drainage infrastructure installed at the working area in order to maintain an operational sewer network in the town. The impact is assessed to be 'long-term and neutral' during the construction phase. The improved sewage infrastructure during the operational phase will be long term and positive.

11.17.14. Mitigation Measures

11.17.15. Mitigation measures include financial compensation for the compulsory acquisition of lands. A property protection scheme will also be put in place and any damage to

properties will be made good. The Construction and Environmental Management Plan will have ensured that nuisance and disruption will be kept to a minimum.

11.17.16. I have considered all of the written submissions made in which in some way relate to material assets. I am satisfied that the impacts, arising particularly during the operational phase will be positive and beneficial. Any adverse impacts particularly in relation to services and utilities identified during the construction phase would be avoided, managed and/or mitigated by measures that form part of the proposed scheme, and with suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts on material assets either during the construction or operational phase and that cumulative effects are not likely to arise.

11.18. Major Accidents and Natural Disasters

11.18.1. This chapter examines the vulnerability of the projects to risks of major accidents and/or disasters that are relevant to the project concerned. From the outset it is stated that the WWTP will be designed, built and operated in line with best practice. A site-specific risk assessment methodology is set out in EIAR based on a 'likelihood rating' and 'consequence rating'. In terms of natural disasters, sever weather events are identified as potentially leading to flooding or flash flooding. In terms of major accidents there are two sites in Arklow which are subject to IED Licences issued by the EPA. (i) Avoca River Park Ltd and (ii) Sigma Aldrich Ireland Ltd, the latter is also a designated SEVESO site.

11.18.2. During the construction phase two potential risks are identified, (i) flooding of the WWTP and (ii) bridge collapse. During the operational phase the risks identified are flooding, an incident at the Seveso site, chemical or wastewater spillage, fire/explosion, structure collapse or vehicle collisions on site. Table 19.7 categorises each of the potential risks by their risk score. All the risks presented are deemed to constitute low risk scenarios.

11.18.3. The scenario with the highest risk score is the flooding of the WWTP during the construction of the replacement revetment. However, the revetment will be replaced in sections of about 10-25 meters. In this manner, the section under construction can be quickly protected during storm events.

11.18.4. During the operational phase the greatest potential risk is identified as being the discharge, spillage or long-term seepage of untreated wastewater, fuel/ chemical/ hazardous substances into receiving waters/groundwater. The fact the WWTP will be designed and constructed to best international standards, will ensure that spillages are very unlikely. For the same reason the risk of a fire/explosion will be low.

11.18.5. It is concluded therefore that the risk of a major accident during the construction and operational phase is deemed to be not significant.

11.18.6. I am satisfied that potential effects arising from major accidents and natural disasters is low, furthermore I am satisfied that the EIAR has demonstrated that any potential impacts can be avoided, managed and / or mitigated by the measures which form part of the proposed development, and with the incorporation of suitable conditions should An Bord Pleanála be minded to grant planning permission for the proposed scheme. There is, therefore, nothing to prevent the approval for the development on the specific grounds of the project's potential to cause or precipitate a major accident or natural disaster.

11.19. Interactive and Cumulative Effects

11.19.1. An overview of the potential cumulative and interactive effects is provided at Chapter 20 of the EIAR. Table 20.1 presents a list of developments which were considered for cumulative effects. Table 20.3 sets out the anticipated interactive effects during the construction period and Table 20.4 sets out the interactive effects during the operation period. The Arklow flood relief scheme is identified as a project which may give rise to cumulative effects. The scheme is still at design stage however efforts have been made to consider the potential impacts which might arise from the delivery of both proposals. These potential cumulative effects are assessed above under each of the individual chapter headings. Potential cumulative impacts are identified to be mainly in the areas of transport and traffic, noise and vibration, biodiversity, built and archaeological heritage and population and human health. The cumulative impact arising from both schemes, were they to overlap, would be to exacerbate the construction impacts for a temporary time-period. It is not anticipated that any other cumulative impacts will arise from other approved developments in the area. Cumulative impacts from the flood relief scheme and the proposed scheme is

likely to have a positive impact on population and human health in the long-term when both projects are operational.

11.19.2. The potential arises for population and human health to interact with all of the other factors (biodiversity, land, soil, water, air and climate, material assets, cultural heritage and the landscape). Biodiversity could impact on land, soil, water, air and climate. The details of all other interrelationships are set out under Table 20.2 of the EIAR, which I have considered in full.

11.19.3. I am satisfied that effects resulting from interactions, indirect and cumulative effects can be avoided, managed and / or mitigated by the measures which form part of the proposed development, the proposed mitigations measures detailed throughout the EIAR, and with the incorporation of suitable conditions should the Board be minded to grant planning permission. There is, therefore, nothing to prevent the approval for the development on the grounds of significant effects resulting interactions between the environmental factors and as a result of cumulative impacts.

11.20. **Reasoned Conclusion on the Significant Effects**

11.20.1. Having regard to the examination of environmental information contained above in the EIAR and supplementary information provided at the oral hearing by the applicant and observers together with the written submission on file from the observers and prescribed bodies, it is considered that the main significant effects of the proposed development on the environment are as follows:

- The most **profound significant effect** when the project becomes operational, will be a **positive effect on the water quality and amenity** associated with the with the removal of untreated wastewater being discharged into the Avoca River. The project will also enable the agglomeration of Arklow to comply with the requirements of the UWWT Regulations and WFD, in that wastewater will be treated to secondary level prior to being discharged into receiving waters.

- Impacts on **population and human health** as a result of **Noise and Vibration** during the construction phase will be adverse but temporary. Noise and vibration effects would be particularly significant during the construction of the interceptor sewer. The effects will be both ground borne and air borne and will be derived from excavation, tunnelling and sheet-piling. The evidence presented

suggests that the impacts, while resulting in a nuisance, will not have any long-term health effects. The potential impacts would be somewhat mitigated by noise and vibration mitigation measures, such as the limiting of construction hours, the use of plant with low inherent potential of noise and / or vibration, the use of noise barriers and locating plant and tunnelling machinery, as far as practically possible away from noise sensitive receptors. Noise and vibration audits and monitoring will also be carried out. Where vibration is considered to have an unacceptable impact, temporary rehousing of residents will be considered. Notwithstanding the mitigation measures proposed, the residual impacts could still be significant and material albeit localised and temporary in duration.

- Impacts on **traffic** through increased congestion and route diversion will also be adverse during the construction phase. As with noise and vibration, the impact will be temporary and localised. However, some of these temporary localised impacts will be significant, particularly in relation to the diversion of traffic from the North Quay onto Seaview Avenue during the construction of the interceptor sewer. Maintaining the partial opening of the North Quay, throughout the construction phase, as suggested by Irish Water in the proceedings of the oral hearing, will go some way to the alleviation of traffic congestion with the town, particularly along Seaview Avenue.

- **Odour** generation from the waste being carried in the interceptor sewer and treated at the WWTP has the potential to have adverse impacts on amenity within the town. Odours from the interceptor sewer will be released via 7.6 m high vents along the route which will ensure that odour concentrations will dissipate so as to be imperceptible in the surrounding area. In the case of the WWTP site there is a greater potential or odour generation. The process building will be sealed so no fugitive odours will be released. Odours from the inlet works, skips, and sludge holding building will be directed through and odour control unit to attenuate malodours prior to release, via a 17.5m stack to the atmosphere. I am satisfied therefore that this issue can be adequately mitigated through attenuation.

- Impacts in relation to **waste and resource management** are likely to arise during construction phase due to the removal of large quantities of material, some of which will be classed as contaminated and /or hazardous, particularly in respect of the works to be undertaken as part of the WWTP. The impacts arising from the

removal of would be mitigated by ensuring that such waste would be transferred to an appropriate specialised and licenced waste contractor for treatment. Protocols will also be put in place to ensure that, following best practice and procedures regarding the recycling and reuse of waste in accordance with the waste management hierarchy, is implemented.

- **Landscape and Visual** impacts would arise in respect of the WWTP with the transition of the site from existing derelict and vacant lands to use as an civic infrastructure facility. While the proposed buildings are of a significant size and scale, they will replace derelict and unsightly buildings of a similar scale and size. The architectural design successfully marries the industrial and marine heritage of the subject site with the civic/infrastructural nature of the proposed use. The proposal, having regard to the site's present unsightly derelict nature, will not have an adverse visual impact notwithstanding the size and scale of the buildings proposed. The implementation of the landscape management plan, and ongoing landscape maintenance would somewhat assist in assimilating the works into the landscape and reduce the impact at operational phase.

11.20.2. The EIAR has considered that the main significant direct and indirect effects of the proposed development on the environment and potential impacts would be primarily mitigated by environmental management measures, as appropriate. Following mitigation, no residual significant long-term negative impacts on the environment or sensitive receptors would remain as a result of the proposed scheme. The positive benefits of the scheme would outweigh any negative impacts arising from the construction period or from any perceived long-term visual impacts. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on the environment during the construction or operational phase.

11.20.3. I am satisfied that the information provided is reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. Overall, I am satisfied that the information contained in the EIAR complies with the provisions of Article 3, 5 and Annex (IV) of EU Directive 2014/52/EU.

12.0 **Compulsory Purchase Order**

12.1. **Introduction**

12.1.1. The statutory powers of Irish Water to acquire lands are contained in section 93 of the Water Services Act 2007 and Sections 213 and 217 of the Planning and Development Act 2000 (as amended). Under the above legislative provisions, Irish Water may acquire land compulsorily for the purpose of performing any of its functions including its key role as a state agency for delivering and upgrading water and wastewater infrastructure within the State.

12.2. **Modifications to the CPO Schedule**

12.2.1. A modification to the CPO Schedule was presented to the oral hearing which seeks to incorporate two modifications; namely

- (a) the **removal of TSS2 on South Quay** (see drawings submitted at the oral hearing - C-IS-706, C-IS-925, C-IS-1506 and C-IS-1507). This omission was sought as a potential means of mitigating some of the potential impacts on adjacent residential properties on South Quay. This will necessitate a longer and more technically challenging S-curve micro-tunnel between TSS1 and TSS2A. However Irish Water are satisfied that the proposed S-curved micro-tunnel represents a technically feasible solution to deliver the proposed interceptor sewer. As a result, the need to acquire Plots 029, 030, 031 and 032 have been eliminated.
- (b) The original proposal sought to temporarily acquire lands to facilitate a full **road closure at North Quay between the Ferrybank Roundabout** and the entrance to the Bridgewater Shopping Centre. The modifications sought seek to reduce the area of land to be temporarily acquired so as to accommodate one lane of traffic east bound at all times.

The above modifications were made in direct response to the submissions and objections received by the Board on foot of the lodgement of both applications

The modifications sought should, in my considered opinion, be accepted by the Board in any CPO confirmation order. The removal of TSS2 will be of considerable benefit in terms of amenity to the residents of South Quay, as the construction

impacts arising from the construction of these tunnel shafts will be eliminated. I refer the Board to the response of Mr Bernard Kavanagh on behalf of two of the objectors (Mr. Pier Leonard & Ailish Byrne) (Submission no. 7), it notes that while the objectors still have concerns in respect of the CPO, the omission of the tunnel shaft is “most welcome”. (see paragraph 5 of submission).

Likewise, the modifications sought in relation to the temporary acquisition of lands on North Quay are likewise beneficial in terms of improving access arrangements to Aldi and the Bridgewater Shopping Centre. In fact, it was specifically on the basis on the modifications presented by Irish Water at the oral hearing, that Aldi Stores Ireland (Ltd) withdrew its objection. While the submission on behalf of the Bridgewater Shopping Centre, still expressed concerns in relation to the overall traffic arrangements associated with the development, it likewise acknowledged that the opening-up of one lane of traffic on North Quay represented an improvement over the original proposal.

For the above reasons I recommend that the Board accept the modifications proposed for the acquisition of lands on the North Quay, and should also in any confirmation of the CPO, omit the acquisition of plots 029, 030, 031 and 032 in any CPO confirmation associated with the scheme.

12.3. **Compliance with CPO Tests**

12.3.1. In exercising the power of compulsory acquisition it is necessary to prove that :-

- There is a community need, which is met by the acquisition of the properties in question,
- The works to be carried out accord with the Development Plan,
- Alternative methods of meeting the community need have been considered but are not available,
- The suitability of the land to meet the community need and any alternative methods that might better meet the community need have been considered but are not available.

The Board will note that a number of these issues have been raised in preceding sections of this assessment and therefore this section should be read in conjunction with same where relevant.

12.4. **Community Need**

There can be no doubt in my opinion that the proposed development serves an important community need. Proposals for a WWTP to serve the town of Arklow were first mooted three decades ago and planning permission was first secured 25 years ago in 1994. For various reasons the plan to develop the treatment plant was never realised (see Section 6 - Planning History above) and this has resulted in Arklow being the largest urban agglomeration in the country which does not have the benefit of a WWTP. As already mentioned previously in my report, untreated wastewater is collected and discharged via 19 separated outfalls into the Avoca River. An infringement case has been brought to the Court of Justice of the EU by the European Commission against Ireland in respect of the discharge of untreated wastewaters into Rivers which is contrary to the overarching objective of the WFD and the requirements of the UWWT Directive in Ireland.

The existing wastewater treatment arrangements are also hampering the future potential social, economic and physical growth of Arklow Town. A new WWTP will be able to accommodate and realise the future potential of the town in attracting new living accommodation, industry services and employment opportunities.

The provision of a WWTP in Arklow will also greatly reduce the pollution risk to the Avoca River, thereby increasing biodiversity and enhancing the amenity of the River. The community need in respect of this critical infrastructure is unequivocal, and this point was acknowledged by all parties during the proceedings of the Oral hearing.

12.5. **Compliance with Development Plan**

12.5.1. As detailed the introductory section of my planning assessment set out in Section 9.1 of this assessment the proposed WWTP accords with European, National, Regional and Local policy. It is specifically listed as a critical strategic project and as an investment priority in the Regional Planning Guidelines for the GDA (2010-2022). The need to provide a WWTP in Arklow is also specifically referred to in the core

strategy of the Wicklow Co. Development Plan and is also a specified permissible use under the *WZ* land-use zoning objective in the Arklow LAP. The delivery of the proposal complies with specific statements in the plans referred and will lead to the fulfilment of stated objectives in local regional and national planning policy.

12.6. **Alternatives**

12.6.1. I refer to the consideration of alternatives and my assessment in section 9.3 above. I will not reiterate the assessment of alternatives for the purposes of the evaluation of the CPO, as the arguments and conclusions have already been set out in this report. It is my opinion that the applicant has submitted sufficient details in terms of the alternatives considered, including alternative options and locations considered for the WWTP site, interceptor sewer and river crossing and the reasons for the choice of the preferred options proposed. These are set out in detail in Chapter 3 of the EIAR and the witness statement of Mr. Michael Tinsley (witness statement No. 3 of the SID Oral Hearing). I would conclude that at this stage of the assessment the chosen option appears to be the most reasonable solution whilst minimising the impacts on the ecological, cultural heritage, visual and residential sensitivities of the area.

Objections submitted by landowners and residents in the area focus on the scheme having an adverse impact on access and residential amenity primarily through the construction of the interceptor sewer. However as already stated, the impacts will be temporary and therefore of limited duration. Such impacts are likely to arise no matter what route is selected and the interceptor sewer would have to intercept pipes within the confines of the town, necessitating construction activity adjacent to occupied buildings. Furthermore, the location of the interceptor sewer along the point of entry of the existing sewage overflows into the Avoca River is the most logical alignment for any such sewer. It is acknowledged that the preferred route presents a burden in relation to residential owners and commercial operations. These impacts will, in many cases, be permanent impacts notwithstanding the mitigation measures proposed. Issues relating to any severance and loss of lands arising are matters to be addressed by way of compensation where deemed appropriate.

12.7. **Suitability of Lands to Meet Community Need and Proportionality**

12.7.1. The lands in question are eminently suitable to suit the community need. The existing road network is very suitable to facilitate and convey the pipe work associated with the interceptor sewer. The road network will be re-instated after the construction phase of the project is completed and will therefore be returned to its original function. The site of the WWTP is currently derelict, under-utilised and is located in close proximity to the interceptor route alignment, minimising the distance to transfer effluent from the sewers to the treatment plant and to transfer treated effluent to the long-sea outfall. The extent of the land that would be acquired under the order is also considered to be reasonable and proportionate. Adequate land is required to facilitate

- The Tunnel Boring Machine (TBM) and the launch and operation of same.
- The accommodation of TBM ancillary equipment (lubrication plant, freshwater tanks, grouting etc)
- The provision of a generator to provide power to the equipment.
- Equipment store (typically 20ft container).
- Crawler Crane
- Pipe Storage
- Area to manoeuvre vehicles within the compound.

The areas to be acquired are in my opinion of an appropriate and of sufficient, yet not excessive size to accommodate the above and the area of land sought will also to allow proper and safe manoeuvrability and circulation within the construction compounds. I again reiterate that the construction compound's will be temporary in duration.

The 2.4 ha site for the WWTP cannot be considered to be excessive, having regard to its overall capacity (36,0000 pe), the need to treat the effluent to secondary standard, and the need to allow the circulation of HGV vehicles for the delivery of materials and collection of waste during the operational phase. A balance also needs to be struck between the visual impact arising from higher buildings with a smaller footprint and lower buildings which have a reduced visual impact but a consequential

larger footprint. I consider the appropriate balance has been achieved in this instance with regard to building height, particularly as the building reflects the general size and scale of buildings in the vicinity. An inspection of the site layout plans in my view, suggest that the site is adequate and proportionate, without being excessive in size, to meet the needs to ensure that the WWTP fulfils its required function.

12.8. **Site Specific CPO Issues**

The Board will note that many of the issues raised by some of the objectors in respect of the CPO application raised wider issues in relation to the overall project. These wider issues included amenity impacts arising from construction, odour nuisance, noise and vibration issues, flooding threats etc. This wider issues have been dealt with in the assessment on the strategic infrastructure application above. It is not proposed to reiterate the assessment in relation to these issues in this section of the report. This section will confine itself specifically to issues surrounding the compulsory purchase of lands.

<u>Area 'Y' – Plot 51</u>

Arklow Ferrybank Developments Ltd are the owners of a contiguous plot of land (c1.01 ha) to the application site. It is submitted to the objectors of the CPO, that a small portion of land (an area, I estimate to be between 20-25 sq.m) has been included in the Irish Water application site, despite it being within the ownership of Arklow Ferrybank Developments Ltd. In support of this claim Arklow Ferrybank Developments Ltd, submitted details of previous planning application drawings and Land Registry Deeds in support of the contention set out.

In response Irish Water state that at the time of making the CPO the lands at the WWTP were unregistered and a land registry search completed after the making of the CPO indicated that the lands comprising of the WWTP site was registered to 'Wallgyp Ltd'. Irish Water further state that all available records indicate that Plot 'Y' lies within the l the lands owned by Wallgyp Ltd. Irish Water do acknowledge that the boundary of the site was assumed to follow the fence line and the boundary delineated on the OSI Mapping (See p.8 of Submission No. 6 of the CPO Hearing by Jarlath Fitzsimons and Damien Keaney).

There is clearly a point of dispute with regard to the ownership of the plot of land in question and this dispute in respect of ownership was not definitively resolved at the Oral Hearing. Both parties however agreed that the issue might best be addressed through amending the CPO Schedule of Land Acquisition contents, specifically in relation to Plot 51. This Schedule originally stated in relation to Plot 51 that the owners or reputed owners were 'Wallgyp Ltd c/o Arklow Shipping Ltd, North Quay Arklow, Co Wicklow'. The revised Schedule submitted to the board at the Oral Hearing refers to the owners or reputed owners as now being, 'Wallgyp Ltd c/o Arklow Shipping Ltd, North Quay Arklow, Co Wicklow and *Arklow Ferrybank Developments Limited, Inchanappa, Ashford Co. Wicklow'* (my emphasis).

There is an acknowledgement by Irish Water that Arklow Ferrybank Developments may be the reputed owners of a small portion of the site and therefore the issue of Title can be determined in the Courts if necessary at some later date. As all reputed owners have been identified and acknowledged in the Land Acquisition Schedule, the Board in my view may proceed in determining the CPO, as matters in relation to title and compensation etc. are the subject of a separate legal and arbitration proceedings.

Temporary Acquisition Rights and Impact on the Development Potential of Adjoining Lands – Plot 50

Arklow Ferrybank Development Ltd contend that the temporary acquisition of land for facilitating the construction phase of the WWTP could have an undue adverse impact on the anticipated time-line on developing its lands. It is argued that utilising part of the Arklow Ferrybank Development's lands as a construction site for 3.5 to 4 years would defer or delay any development potential of the site.

The objector was refused planning permission for an extension of duration of permission for 118 Apartments in 2016 on the basis of non-compliance with updated national guidelines in relation to apartments standards. To the best of my knowledge no follow-up application has been made on the application site, and as such, there are no live permissions or live applications on the site in question at the time of writing the report. Thus, there is no imminent immediate-term development earmarked or anticipated for the site. Irish Water has also indicated that Plot 50 will only be used as a construction site for between 6-9 months and

not for the entire during of the project construction, although it is not altogether clear as to what stage the during the overall construction works Plot 50 will be utilised as a construction compound.
The temporary acquisition of Plot 50 could defer the development potential of the contiguous landholding for a period of time. However, this has to be balanced against the substantial benefits which would accrue from delivering the project. These substantial benefits have been outlined elsewhere in my report. I am satisfied that the temporary acquisition of lands is clearly justified by the exigencies of the common good. These exigencies should disproportionately outweigh the temporary deferral of the development potential of the lands in question, particularly as these lands do not currently have the benefit of an extant planning permission.

Objections from Christine mc Elheron (Plot No.029), Ailish Byrne (Plot No.30), Peir Leonard & Roger Prestage (Plot No. 31).

These objectors live on South Quay and in their original submissions expressed concerns regard to the amenity impacts and accessibility to their homes and front gardens as a result of the proposed tunnel shaft (TSS 2) at South Quay. The modification to the CPO seeks to omit this tunnel shaft, thus the need to acquire the interest is the plots in question has now been eliminated.
Notwithstanding the modifications, the above objectors still expressed concerns regarding the CPO and did not withdraw the objections. Their concerns are highlighted in the submission on their behalf by Mr. Bernard Kavanagh (submission No. 7 to the CPO hearing). The chief concern relates to the uncertainty of the modification. It is suggested that, notwithstanding the modifications proposed, ambiguity still exists between the drawings submitted and the works to be carried out on the ground. The drawings suggest that the planning boundary for the works to be undertaken is still located within the objector's property. It is also contended that at some future date the contractor may decide that it is not possible to carry out the works in the context of the modification proposed and therefore it may be necessary to re-introduce a tunnel shaft at this location. Finally, the objectors require reassurance from the Board that, in the event of the scheme being approved that a manhole cannot be located at the original location of TSS 2 or within 50m of this location.

If the Board decide, as recommended in this report, not to confirm the temporary acquisition of lands concerning plots 029-031, then Irish Water would have no legal jurisdiction to carry out any construction works on the said lands. Therefore, no contractor would be entitled to re-instate TSS 2 without the formal acquisition of the plots of land. There is no ambiguity surrounding this issue as suggested in Mr Kavanagh's submission. The fact that the planning boundary remains in situ, as has not been altered as a result of the modification proposed, does not confer any rights on Irish Water to carry out TSS 2 without the express permission of the Board to confirm the acquisition of the said lands.

The alignment of the interceptor sewer remains outside, the boundaries of the properties of the dwelling houses to the immediate south of the alignment on South Quay. The revised drawing submitted does not indicate any manhole to replace TSS 2. I do note however that there is a distance of c.240m between manhole no. 15 and manhole no. 16 along South Quay. Should the need arise, I would consider it reasonable that Irish Water be permitted to place an inspection manhole someway along this section of the alignment. Such a manhole would not be located within the gardens of the objectors concerned but would be located on public lands to the north of the gardens concerned. For this reason, I would consider it inappropriate for the Board to attach a condition prohibiting any manhole to be located within 50m of any of the objector's properties.

Objection of Ms Nicola Kenny - Plot 64

During the proceedings of the Oral Hearing, Ms Nicola Kenny informed the Board that she was only given notice of her right to object to the CPO at c.7pm the previous evening (Thursday 24th of January- See submission 8 to the CPO hearing). During the proceedings of the hearing Irish Water informed the Board, that it received a letter on behalf of Ms Kenny, from Haughton McCarroll Solicitors (see letter on file) which stated that, notwithstanding the fact that Irish Water served a notice of compulsory purchase on adjoining properties, no such notice was served on Ms Kenny. The letter further states that the proposed works in relation to the upgrading of the sewage system is proposed to be carried out through an area of ground, which it is stated, Ms Kenny and her family have been 'in occupation of upwards of sixty years'. The area of land in question appears to be a parcel of green space between the roadway and the front boundary of the

private gardens on South Quay (Plot No. 64). In response Irish Water noted that the works to be undertaken are not above ground and the pipeline at this location is to be constructed by way of trenchless technology.

A critical issue arises with regard to the procedure undertaken by Irish Water in serving the notice to Ms Kenny. The Housing Act (Acquisition of Land) Regulations 2000 provides that a local authority (or in this case Irish Water) provide a period of 'at least 21 days' to make an objection from the serving on the CPO Notice to the landowner. In the case of the CPO before the Board Irish Water permitted objections to be made for a period of over 2 months (notices were published on September 5th indicating that objections to the CPO can be submitted to the Board until November 9th 2018).

Irish Water in issuing a letter to Ms Kenny the evening before the oral hearing was due to commence, containing a modified CPO schedule and drawing that 'will state your interests in the area you have claimed occupation' could be construed as an acknowledgement that Ms Kenny has legal rights over the lands in question and therefore should be afforded the same rights as others with regard to lodging an objection to the CPO, including the right to seek professional advice and be given a longer period to formulate and lodge an objection should she deem it appropriate to do so. For this reason, the Board considered it appropriate to permit Irish Water to re-serve notice on Ms Kenny and others (Plots 64-70) to re-open the Oral Hearing specifically to hear any objections in respect of these plots. The CPO Hearing was re-opened on June 21st specifically to hear the oral submission of Ms Nichola and Elizabeth Kenny, (see Section 15.3 below for details of re-opening of hearing).

At the re-opened hearing Miss Kenny, the sole objector, expressed concerns that the proposed permanent wayleave acquisition could result in structural damage to houses. Concern was also expressed as to who would ultimately be responsible for the works to be undertaken, namely the contractor or Irish Water? It was also questioned whether or not other semi-state bodies, including the OPW as part of the Arklow Flood Relief Scheme, would have legal access to the permanent wayleave under plot 64. Ms Kenny also stated that see was reliably informed that the tunnelling alignment could be placed within the carriageway and therefore does not need to be located within the green areas to the front of the dwelling houses and South Quay.

With regard to the issues of structural damage to buildings arising from the tunnelling works, this issue was addressed in my assessment of the related SID application for the interceptor sewer. A series of conditions will be put in place as mitigation measures to address these concerns. Issues relating to noise, vibration and potential damage to property are dealt with above in Section.9.6 of my assessment above.

In respect to access within the permeant wayleave associated with the tunnel alignment, Irish Water have indicated that, that no other bodies, other than Irish Water, will have access to the wayleave. It is therefore respectfully suggested that Ms Kenny's concerns in this regard are unfounded.

With regard to the over-lapping of issues/projects with the Arklow Flood Relief Scheme, the current SID application and CPO are in no way reliant or predicated upon works to be carried out as part of the said Flood Relief Scheme, in order to be implemented. While it may be seen as advantageous that any overlapping works would be undertaken in a co-ordinated manner, the two schemes are mutually exclusive and can be carried out independently of each other.

With regard to ultimate responsibility for the project, Irish Water have indicated that, as the applicants it, and not the contractor, has the sole responsibility for the implementation and operation of the scheme. Any complaints or issues that may arise during either the construction and operational phase, are ultimately the responsibility of Irish Water and not the contractor overseeing the project.

In relation to placing the tunnelling alignment, within the confines of the roadway, I would refer the Board to the witness statement of Mr. Aidan Ma Carthy submitted to the re-opening of the Oral Hearing on June 21st 2019. It states that locating the pipeline within the existing carriageway was considered during the design stage. However best practice[8] recommends that a minimum radius of 200m would be required for curved tunnel drives. Curved tunnel drives will now be required with the elimination of TSS2. Therefore, it is not possible to construct the pipeline within the public carriageway using a single curved drive. The placement of the pipeline within the roadway would require the incorporation of an additional chamber, such

[8] "An Introduction to Pipejacking and Miro-Tunnelling" by The Pipejacking Association (Jan 2017).

as that originally proposed (TSS2), and this, it is argued, would have a greater impact on residential amenity.

13.0 Recommendation

On the basis of the above assessment I recommend as follows:

Strategic Infrastructure Development Application under the S37E

Application for Approval for the Proposed Wastewater Treatment Plant, Interceptor Sewers, associated Strom Water Overflows and Storm Water Storage Tank, Long-Sea Outfall Pipe, Revetment Upgrade, Temporary Access Road, Construction Compounds and all associated works at Tinahask Lower and Ferrybank, Arklow, Co. Wicklow.

APPROVE the above proposed development in accordance with the said documentation based on the following reasons and considerations and subject to the conditions set out below.

REASONS AND CONSIDERATIONS

In coming to its decision, the Board had regard to the following:

(a) The relevant provisions of Council Directive 2014/52/EU amending Directive 2011/92/EU (EIA Directive) on the assessment of the effects of certain public and private projects on the environment, Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directives) which set the requirements for Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union.

(b) Council Directive 2000/60/EC for establishing a framework for Community action in the field of water policy,

(c) Council Directive 91/271/EEC concerning urban wastewater treatment

(d) the national, regional and local strategic policies and objectives, inclusive of those set out in National Planning Framework, The Water Services Policy Statement 2018-2025, Irish Waters Water Services Strategic Plan, the

Regional Planning Guidelines for the Greater Dublin Area 2010-2022, the Wicklow County Development Plan 2016-2022, the Arklow Local Area Plan 2018-2024

(e) The environmental improvements in water quality which would accrue in the Avoca River, estuarine waters and coastal waters as a result of ceasing the untreated discharge of effluent into the river.

(f) the design, layout and architectural treatment of the proposed wastewater treatment plant development,

(g) the range of proposed mitigation measures set out in the submitted in the documentation lodged including the Environmental Impact Assessment Report, and Natura Impact Statement.

(h) the submissions made in relation to the application including those submitted at the Oral hearing and the report and recommendation of the Inspector.

Proper Planning and Sustainable Development

It is considered that the proposed road development would accord with European, national, regional and local planning and that it is acceptable in respect of its likely effects on the environment and its likely consequences for the proper planning and sustainable development of the area.

Appropriate Assessment:

The Board agreed with and adopted the screening assessment and conclusions carried out in the Inspector's report that the Buckroney -Brittas Dunes and Fen SAC (Site Code 000729), Kilpatrick Sandhills SAC (Site Code 001742), Magharabeg Dunes SAC (Site Code 001766) are the only European Sites in respect of which the proposed development and more specifically the proposed long sea outfall has the potential to have a significant effect.

The Board considered the Natura Impact Statement and associated documentation submitted with the application for approval, the mitigation measures contained therein, the submissions and observations on file, and the Inspector's assessment. The Board completed an appropriate assessment of the implications of the proposed development for the potentially affected European Sites, namely the Buckroney -Brittas Dunes and Fen SAC (Site Code 000729), Kilpatrick Sandhills

SAC (Site Code 001742), Magharabeg Dunes SAC (Site Code 001766) in view of the sites' conservation objectives. The Board considered that the information before it was adequate to allow the carrying out of an appropriate assessment.

In completing the appropriate assessment, the Board considered, in particular, the following:

i. the likely direct and indirect impacts arising from the proposed wastewater treatment plant and associated development together with the long-sea outfall development both individually or in combination with other plans or projects,

ii. the mitigation measures which are included as part of the current proposal, and

iii. the conservation objectives for the European Sites.

In completing the appropriate assessment, the Board accepted and adopted the appropriate assessment carried out in the Inspector's report in respect of the potential effects of the proposed road development on the aforementioned European Sites, having regard to the sites' conservation objectives.

In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites, in view of the sites' conservation objectives.

Environmental Impact Assessment:

The Board completed an environmental impact assessment of the proposed development, taking into account:

(a) the nature, scale and extent of the proposed development;

(b) the drawings submitted with the application;

(c) the environmental impact assessment report and associated documentation submitted in support of the application including the technical information included in the appendices;

(d) the submissions from the Planning Authority, the observers and prescribed bodies in the course of the application and the submissions of the applicant and observers during the oral hearing,

(e) the Inspector's report.

The Board agreed with the summary and examination set out in the Inspector's report, of the information contained in the environmental impact assessment report and associated documentation submitted by the applicant and submissions made in the course of the application. The Board is satisfied that the Inspector's report sets out how these various environmental issues were addressed in the examination and recommendation and are incorporated into the Board's decision.

- The Board considered that the environmental impact assessment report, supported by the additional documentation submitted by the applicant during the course of the oral hearing, provided information which is reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. The Board is satisfied that the information contained in the EIAR is up to date and complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU**.** The Board considered that the main significant direct and indirect effects of the proposed development, together with mitigation measures to be employed on the environment are as follows:

- The most **profound significant effect** when the project becomes operational, will be a **positive effect on the water quality and amenity** associated with the with the removal of untreated wastewater being discharged into the Avoca River. The project will also enable the agglomeration of Arklow to comply with the requirements of the UWWT Regulations and WFD, in that wastewater will be treated to secondary level prior to being discharged into receiving waters.

- Impacts on **population and human health** as a result of **Noise and Vibration** during the construction phase will be adverse but temporary. Noise and vibration effects would be particularly significant during the construction of the interceptor sewer. The effects will be both groundborne and air borne and will be derived from excavation, tunnelling and sheet-piling. The potential impacts would be somewhat mitigated by noise and vibration mitigation measures, such as the limiting of construction hours, the use of plant with low inherent potential of noise and / or vibration, the use of noise barriers and

locating plant and tunnelling machinery, as far as practically possible away from noise sensitive receptors. Noise and vibration audits will be carried out. Where vibration is considered to have an unacceptable impact, temporary rehousing of residents will be considered. Notwithstanding the mitigation measures proposed, the residual impacts could still be significant and material; albeit localised and temporary in duration.

- Impacts on **traffic** through increased congestion and route diversion will also be adverse during the construction phase. As with noise and vibration, the impact will be temporary and localised. However, some of these temporary localised impacts will be significant, particularly in relation to the diversion of traffic from the North Quay onto Seaview Avenue during the construction of the interceptor sewer.
- **Odour** generation from the waste being carried in the interceptor sewer and treated at the WWTP has the potential to have adverse impacts on amenity within the town. Odours from the interceptor sewer will be released via 7.6 m high vents along the route which will ensure that odour concentrations will dissipate so as to be imperceptible in the surrounding area. In the case of the WWTP site there is a greater potential or odour generation. The process building will be sealed so no fugitive odours will be released. Odours from the inlet works, skips, and sludge holding building will be directed through and odour control unit to attenuate malodours prior to release via a 17.5m duct to the atmosphere. The Board is satisfied therefore that this issue can be adequately mitigated through attenuation.
- Impacts in relation to **waste and resource management** are likely to arise during construction phase due to the removal of large quantities of material some of which will be classed as contaminated and /or hazardous, particularly in respect of the works to be undertaken as part of the WWTP. The impacts arising from the removal of waste would be mitigated by ensuring that such waste would be transferred to an appropriate specialised and licenced waste contractor for treatment. Protocols will also be put in place to ensure that, following best practice and procedures regarding the recycling and reuse of waste in accordance with the waste management hierarchy, is implemented.

- **Landscape and Visual** impacts would arise in respect of the WWTP with the transition of the site from existing derelict and vacant lands to use as an industrial/infrastructure facility. While the proposed buildings are of a significant size and scale, they will replace derelict and unsightly buildings of a similar scale and size. The architectural design successfully marries the industrial heritage of the subject site with the civic/infrastructural nature of the proposed use. The proposal, having regard to the site's present unsightly derelict nature, will not have an adverse visual impact notwithstanding the size and scale of the buildings proposed. The implementation of the landscape management plan, and ongoing landscape maintenance would somewhat assist in assimilating the works into the landscape and reduce the visual of the buildings at operational phase.

The Board completed an environmental impact assessment in relation to the proposed development and concluded that, subject to the implementation of the mitigation measures referred to above, and other measures set out in chapter 21 of the EIAR and those set out in the various witness statements submitted to the oral hearing on the 22nd January 2019, including proposed monitoring as appropriate, subject to compliance with the conditions set out below, the effects on the environment of the proposed development, by itself and in combination with other development in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the Inspector.

CONDITIONS

General

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application and the information contained in the environmental impact assessment report, including all mitigation measures contained therein, as amended by the further plans and particulars submitted at the oral hearing, except as may otherwise be required in order to comply with the following conditions.

Reason: In the interest of clarity.

Operational Phase

2. The proposed development shall be constructed to a standard capable of complying with the following treated maximum effluent values:
Biochemical Oxygen Demand – 25mg/l
Total Suspended Solids – 35 mg/l
Chemical Oxygen Demand -125 mg/l

Reason: In the interest of clarity and to comply with the requirements of the Urban Wastewater Treatment Regulations (S.I. No. 254 of 2001).

3. The odour emanating from the site shall not exceed 3 O_U /m^3 at the 98 percentile for hourly averages for more than 50 hours per year at the site boundary.

Reason: In the interest of the amenities of the surrounding area.

4. Dust levels at the site boundary shall not exceed 350 mg/m^2/day averaged over a continuous period of 30 days. A monthly survey and monitoring programme of dust and particulate emissions shall be undertaken to provide for compliance with these limits.

Reason: To control dust emissions arising from the development and in the interest of the amenities of the area.

5. Details of all external lighting associated with the wastewater treatment shall be agreed in writing with the planning authority prior to the commencement of development.

Reason: In the interests of visual amenity and biodiversity.

6. A plan containing details for the management of waste (and in particular recyclable materials) within the development including the provision of facilities for storage, separation and collection of the waste and in particular recyclable materials for the on-going operation of these facilities shall be submitted to and agreed in writing with the planning authority prior to the commencement of development. Thereafter the waste shall be managed in accordance with the agreed plan.

Reason: To provide the appropriate management of waste and in particular recyclable materials in the interest of protecting the environment.

Construction Phase

Environmental Mitigation

7. The development shall be carried out in accordance with all plans and particulars contained in the Environmental Impact assessment Report (EIAR) and in accordance with details submitted by the applicant to the oral hearing including mitigation measures, except as may otherwise be required in order to comply with the conditions set out below.

Reason: In the interest of clarity.

External Finishes

8. The external finishes of the proposed buildings of the waste water treatment plant shall comprise of fibre cement panels, aluminium flashings and aluminium supports. Details of the colours textures and finishes of all materials shall be agreed with the planning authority prior to the commencement of development.

Reason: in the Interests of visual amenity.

Noise and Vibration

9. The limiting value or threshold of any particular criterion relating to noise and vibration environmental impacts, for both construction and operation phases, shall be as stated in the EIAR, unless modified by evidence submitted by the applicant to the oral hearing, or by conditions set out below. Specifically, the Irish Water will implement the following during the construction phase:

(i) The appointed contractor shall be required to prepare a Noise and Vibration Management Plan (NVMP) which shall detail all measures that shall be employed to ensure that all noise and vibration criteria set out in the EIAR will be fully complied with. The NVMP shall inter alia incorporate the following measures/ best practice:

- The appointment of a designated site representative who shall be responsible for all matters relating to noise and vibration matters. Contact details of this representative shall be made available to the public.
- Rubber Linings shall be incorporated into all chutes and dumpers to reduce noise.
- Generators shall be located, where practicable, away from noise sensitive receptors and shall be enclosed.
- All equipment and road vehicles shall conform to relevant standards and international standards.
- Plant equipment on site shall be started sequentially rather than simultaneously.
- Where possible equipment will be fitted with suitable anti-vibration mountings.
- Regular maintenance of all plant and vehicles by trained personnel to minimise all noise and vibration.
- A 2.4-meter-high, high-density hoarding shall be placed around all construction compounds including the TBM launch sites.
- Where hard material is encountered within 5 m of an occupied building as part of the tunnel-boring process, chemical bursting shall be used to break down the hard material. Pneumatic or hydraulic breakers shall not be used.

Reason: In the interests of protecting residential amenity.

10. With the exception of the operation of the tunnel boring machine (TBM), which shall be permitted to operate on a 24 hour basis, site development and building works shall be carried out only between the hours of 8 a.m. to 7 p.m.

Monday to Friday, 8 a.m. to 2 p.m. Saturday and not at all on Sundays or Public Holidays. Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from the planning authority.

Reason: In the interests of preserving residential amenity

11. The contractor shall take specific noise abatement measures so as to comply with the standards incorporated in BSI (2014) 5228-1 and 2:2009+A1:2014, *Code of Practice for Noise and Vibration Control on Construction and Open Sites*, *Noise and Vibration and the European Communities (Noise and Emissions by Equipment for Use Outdoors) Regulations (2001) (as amended).*

    Reason: In the interests of preserving residential amenity

12. The appointed contractor shall prepare detailed method statements addressing the likely air borne and ground borne noise and vibration levels that will be generated as a result of the construction activities. The noise and vibration limits shall comply with the limits set out as follows:

    - The following airborne construction noise limits shall be adhered to during all phases of construction:

    (a) Construction Noise Level Criteria at any Façade of a Normal Residence:

Day	Period & Limit (dB)	Notes
Monday to Friday	70 LAeq 1Hr 800-1900 Hours 65 LAeq 1Hr 1900-2200 Hours 45 LAeq 15min 2200-0700 Hours*	*Non tonal, non impulsive
Saturdays	70 LAeq 1Hr 0800-1630 Hours 55 LAeq 1Hr 1630-2200 Hours 45 LAeq 15min 2200-0800 Hours*	*Non tonal, non impulsive
Sundays, Bank and Public Holidays (Where deviations are permitted by the planning authority)	60 LAeq 1Hr 0800-1630 Hours 50 LAeq 1Hr 1630-2200 Hours 45 LAeq 15min 2200-0800 Hours*	*Non tonal, non impulsive

(b) The following ground borne noise levels shall generally be adhered to:

Ground Borne Noise Level (dBL_{Amax})	49 dBL_{Amax}*	*measured indoors near the centre of any dwelling room at ground floor level

Reason: In the interest of preserving residential amenity.

13. (a) Where it is anticipated during ground investigation works that ground borne construction noise levels are likely exceed 49 (dB L_{Amax}) for a continuous period of 12 hours at the nearest noise sensitive receptor, any residents residing at the that receptor shall be notified at least 48 hours in advance, and shall be offered temporary accommodation at a hotel or guesthouse at the Irish Water's expense during the period for which the above ground borne noise level is likely to be exceeded.

(b) Where ground borne construction noise is not anticipated to exceed 49(dB L_{Amax}) but nevertheless exceeds this limit, arrangements shall be made to

provide temporary accommodation for the period for which this limit is exceeded for those noise sensitive receptors affected.

Reason: in the interests of protecting residential amenity.

14. Limiting values stated for vibration and ground borne noise shall be based - without modification - on relevant British Standards, where applicable, as set out in the following codes:

- BS 5228-2:2009. *"Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration".*
- BS 6472-1:2008. *"Guide to evaluation of human exposure to vibration in buildings – Part 1: Vibration sources other than blasting*"
- BS 6472-2: 2008. "*Guide to evaluation of human exposure to vibration in buildings Part 2: Blast-induced vibration*"
- BS 7385-1:1990. *"Evaluation and measurement for vibration in buildings. Guide for measurement of vibrations and evaluation of their effects on buildings*"
- BS 7385-2: 1993. *"Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from groundborne vibration"*.

Reason: In the interest of clarity and to apply verifiable and accepted standards in order to minimise environmental impacts.

15. As part of the Noise and Vibration Monitoring (NVM) program, specific method statements shall be developed for construction work which can give rise to significant ground vibrations. Field trials and tests shall be carried out in advance of critical activities. Vibration levels shall be predicted and compared with measured values.

Reason: To provide for a comprehensive system of noise and vibration monitoring throughout the construction works phase and to minimise environmental impacts.

16. All sub-surface construction works shall be planned, carried out and monitored in compliance with Eurocodes Execution Standards: 'Execution of Special Geotechnical Works -Sheet Pile Walls EN 12063'

Reason: In the interest of clarity and to ensure a proper standard of development.

17. Vibration levels from the tunnelling of the interceptor sewer and sheet piling works at the at the nearest noise sensitive receptor shall not exceed a peak particle velocity of 7.5 mm/s at 4 Hz increasing to 10mm/s at between 15Hz to 40 Hz and increasing to 25mm/s at 40 Hz and above.
Where the above levels are breached, all construction works which are giving rise to the exceedance shall be discontinued an interim survey shall be carried out without delay. The construction process shall be modified or adjusted so as to avoid any further damage. In this regard, changes to the working method shall be agreed with the Independent Environmental Monitor.

Reason: To limit the environmental impact of the development, to avoid ambiguity when applying and monitoring limiting values and in the interest of clarity.

18. Continuous noise and vibration monitoring shall take place at the following locations during each of the following the construction phases.

Location S08	As per figure 10.1 of EIAR	During the construction phase of the Alps storm retention tank and SWO
Location S07	As per figure 10.1 of EIAR	During the open trench construction of the interceptor sewer along River Side Walk
Arklow Bridge	South side of River at junction with Bridge Street	During the construction of the sewer beneath the southern arch and underpinning of the Bridge
Location S05	As per figure 10.1 of EIAR	During the construction phase of the proposed interceptor sewer and the in-channel river works along the South Quay
Location S04	As per figure 10.1 of EIAR	During the construction phase of the interceptor sewer between South Green and Harbour Road
Location S03	As per figure 10.1 of EIAR	During the construction phase of TSS3 (modified as TSS2A) at the junction of Harbour Road and South Quay
Location S06	As per figure 10.1 of EIAR	During the construction of TSN1
Location S06	As per figure 10.1 of EIAR	During the construction of Working Area N2
Location N4	At the entrance of the	During the construction

	Bridgewater Shopping Centre and Aldi Stores	phase of working area N3 and N4
Location S01	As per figure 10.1 of EIAR	During the construction phase of working area N7 and TSN 3 and TSN 5
Location TSN 7	At the proposed entrance to the WwTP	During the construction phase of the WwTP and the construction of TSN7 and TSN 8

Reason: In the interests of residential amenity.

19. Irish Water shall facilitate, where requested by the owner/occupier of every building within 30 meters of the centre of the of the proposed interceptor sewer, the carrying out of an independent structural survey of the building before and after the construction works are completed. The baseline condition survey and the post construction survey shall be made publicly available to the owner/occupier of each of the buildings. Where it is found by an independent arbitrator that structural or cosmetic damage has been caused, which can be directly attributable to the construction works undertaken by Irish Water, Irish Water shall be liable to make good and such structural or cosmetic defects.

Reason: In the interest of orderly development, to minimise structural damage to properties, and to ensure a timely and effective response to any building damage problems during construction.

20. During the construction of the marine outfall applicant shall comply with the requirements of *'Guidance to Manage the Risk to Marine Mammals from man-made Sound Sources in Irish Waters'* published by the Department of Arts, Heritage and the Gaeltacht (2014). A qualified and experienced marine

mammal observer (MMO) shall be appointed to monitor for marine mammals and to log all relevant events using standardised data forms. Any drilling activity shall not commence if marine mammals are detected within a 500m radial distance from the drilling source.

Reason: For the protection of cetaceans and other marine fauna.

21. Underwater noise levels shall be monitored in accordance with a monitoring plan drawn up following consultation with the National Parks and Wildlife Service during the construction period.

Reason: To ensure the protection of marine mammals and other marine fauna.

22.. During the construction of the diffuser shaft, a suitably qualified marine ecologist shall be present on the marine construction rig so as to ensure that no cetaceans are within the 100 metres exclusion zone of the rig during the commencement of drilling operations. Where such marine fauna are present within the exclusion zone, drilling operation will be suspended until such time as the fauna leave the exclusion zone.

Reason: To ensure the protection of cetaceans.

Construction Management Plan:

23. Prior to the commencement of development Irish Water shall submit to the planning authority a detailed Construction and Environmental Management Plan. The Plan shall clearly identify all measures / commitments as set out in the EIAR in relation to construction activities and shall clearly identify the construction programme for the carrying out of the phases of works. The

construction programme shall be updated every 3 months following the commencement of works. The construction management plan shall, as a minimum, include the following:

(a) Precise details of the location of the site and materials compounds including areas identified for the storage of construction refuse;

(b) Location of areas for construction site offices and staff facilities;

(c) Details of site security fencing and hoardings;

(d) Details of on-site car parking facilities for site workers during the course of construction;

(e) Details of the timing and routing of construction traffic to and from the construction site and associated directional signage, to include proposals to facilitate the delivery of abnormal loads to the site;

(f) Measures to obviate queuing of construction traffic on the adjoining road network;

(g) Measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network;

(h) Alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public road or footpath during the course of site development works;

(i) Provision of parking for existing properties along Riverside Walk, South Quay and North Quay during the construction period;

(j) Containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained. Such bunds shall be roofed to exclude rainwater;

(k) Off-site disposal of construction/demolition waste and details of how it is proposed to manage excavated soil;

(l) Means to ensure that surface water run-off is controlled such that no silt or other pollutants enter local surface water sewers or drains.

(m) All measures to be employed in relation to containing spill contingencies, spoil disposal, management of contaminated soil, the selection of slurry additives and drilling fluids.

(n) Details of a pest control plan.

(o) Where possible clean and uncontaminated excavated material arising from construction shall be reused as construction fill material.

A record of daily checks that the works are being undertaken in accordance with the Construction Management Plan shall be kept for inspection by the planning authority.

Reason: In the interest of amenities, public health and safety.

24. All areas of temporary land acquisition required as temporary construction compounds shall be reinstated to the original condition.

Reason: In the interests of orderly development.

25. Construction of the long-sea outfall shall only take place within the May to September period. Construction of the outfall shall not take place where wave heights exceed 1.5 meters in height.

Reason: To minimise sediment suspension on the sea bed and to protect the integrity of Natura 2000 sites in the wider area.

Environmental Risk Management Plan

26. An Environmental Risk Management Plan, for both construction and operation stages (incorporating instrumentation, monitoring strategy, monitoring methods, monitoring framework and actions/responses to observations), shall

be as prepared by the applicant to ensure an effective response to disasters or risks of accidents. The plan should include emergency response measures where an un-intended discharge spillage or longer-term seepage of untreated wastewater, fuel chemical solvents etc. into the waterbodies or the groundwater table.

Reason: To ensure that rigorous risk management shall be applied during construction and operation of the Arklow Wastewater treatment project, and in the interest of public safety and environmental protection.

27. The applicant shall retain responsibility for overseeing, updating and enforcing the Environmental Risk Management program throughout the development of the scheme.

Reason: In the interest of orderly development, and to achieve a high standard of construction, to provide a clear responsibility for the management of risk, and to ensure mitigation measures are fully implemented.

28. Prior to the appointment of the selected contractor for the Tunnel Boring Machine (TBM) works, the applicant shall be satisfied that the contractor has demonstrated sufficient experience in TBM work. The required experience shall be verified by the applicant prior to the contractor's appointment.

Reason: It is considered reasonable to require such previous experience in the interests of public safety, property protection, environmental protection and the proper planning and sustainable development of the area.

Soils and Geology

29. The detailed design stage shall be carried out in compliance with EN 1997 (Eurocode 7: Geotechnical Design), and shall include, *inter alia*, the following:

    (i) a further detailed assessment of the geotechnical and geological conditions within tunnel sections and at locations of deep excavations associated with the pumping station to the waste water treatment plant,

    (ii) investigations to further determine occurrences of faults, zones of weakness and weathering in rock, in particular, for areas where deep excavations are proposed and for mixed face tunnelling conditions

    Reason: To ensure a high standard of development utilising the optimum construction methods that take full account of the geotechnical and geological conditions where tunnelling and deep excavations are proposed and to limit the environmental impact of the development.

30. The extent of contaminated ground shall be further determined by detailed investigations of all areas where excavations are proposed, these investigations shall be conducted prior to the commencement of excavation works.

    Reason: To limit the potential impact from contaminated soil and in the interests of clarity.

31. All contaminated soil shall be removed from site by a licenced contractor and shall be disposed of at an appropriate licenced facility
    Reason: In the Interests of public health and safety.

32 All asbestos removal from the existing Wallboard Factory at the Wastewater treatment plant site shall be removed by a competent contractor with appropriate trained staff, equipment and resources and will be disposed of at an appropriate licenced facility.

Reason: In the interests of public health and safety.

33. Construction and demolition waste shall be managed in accordance with a construction waste and demolition management plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall be prepared in accordance with the "Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects", published by the Department of the Environment, Heritage and Local Government in July 2006. The plan shall include details of waste to be generated during site clearance and construction phases, and details of the methods and locations to be employed for the prevention, minimisation, recovery and disposal of this material in accordance with the provision of the Waste Management Plan for the Region in which the site is situated.

Reason: In the interest of sustainable waste management.

Traffic Management

34.. Prior to the commencement of development, a detailed Traffic Management Plan shall be submitted to the planning authority for agreement. The Plan shall set out all details of temporary road closures, traffic diversions, temporary signalised junctions, signage, haul routes to and from the M11 etc. to be incorporated in the various construction phases. Where necessary, following the commencement of development, this traffic management plan shall be

updated to reflect any alterations to the plan. Furthermore, the traffic management plan shall ensure that the following measures are incorporated:

a) All trucks entering and exiting the WWTP site and construction compounds will be covered with tarpaulin.
b) All trucks exiting the site will be required to pass through a wheel wash.
c) The construction traffic management plan should include a detailed consultation plan to deal with third party queries from both residents and third-party commercial operators.

Reason: In the interests of traffic safety.

35. Works on North Quay shall be carried out in during the summer month only (June, July and August).
Reason: In order to avoid unnecessary congestion on North Quay and to maintain reasonable access to commercial and retail operators which are accessed via North Quay.

36. For works on Arklow Bridge no scheduled lane closures should commence before 21:00 and all lane closures be lifted by 0700 in the morning.

Reason: In the interests of traffic safety and to avoid traffic congestion.

37. The Internal road network serving the wastewater treatment plant including turning bays, junctions, parking areas, footpaths and kerbs shall comply with the detailed standards of the planning authority for such road works.

Reason: In the interests of amenity and of traffic and pedestrian safety.

Public Communications Programme

38. Prior to the commencement of construction, the applicant shall devise a pro-active public information strategy to function during the construction phase of the development in order to inform the public about the project and to update the public on construction progress. This shall be prepared following consultation with the planning authority. The strategy shall include *inter alia*:

(a) an ongoing programme to inform the general public on construction methodologies, the progress of the development, and the aims and objectives of the scheme,

(b) project information panels and progress updates presented at major work sites.

(c) A Liaison and Communications Officer/s shall be appointed by Irish Water, who shall be available to communicate and disseminate information regarding to the project to the general public and shall be available to deal with any complaints or concerns in respect of the project aired by the general public. The mobile phone no. and e-mail address of the Liaison and Communications Officer shall be made available to the general public.

Reason: In order to maintain good communication about the project for the benefit of the general public and visitors to the city.

Archaeology and Marine Archaeology

39. The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the construction sites, and the area of land affected by the laying of electric cables, the proposed new access slip road on land and the protection of any marine archaeological deposits that may exist in the vicinity of the proposed diffuser shaft. In this regard the developer shall:

(a) Notify the Department of the Environment Community and Local Government in writing at least four weeks prior to the commencement of any site operations (including hydrological and geotechnical investigations) relating to the proposed development.

(b) Employ a suitably qualified archaeologist who shall monitor all site investigations and other excavation works.

(c) Provide arrangements for the recording and for the removal of any archaeological material which the Department of the Environment Community and Local Government considers appropriate to remove.

In default of an agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the site and to secure the preservation and protection of any remains that may exist within the site.

40 An archaeological dive inspection shall take place prior to commencement of works in order to identify any anomalies which may exist on the sea bed in the vicinity of the diffuser shaft. If required, the diffuser shaft shall be relocated to

a point as close as possible to the proposed location without impinging or impacting upon any feature of archaeological interest. All such works shall be carried out in consultation and under the supervision of a suitably qualified marine archaeologist.

Reason: In order to conserve the archaeological heritage of Arklow Bay and to secure the preservation and protection of any remains that may exist within the Bay.

41. The developer shall inform the relevant Port Authorities of the precise location, including the geographical co-ordinates, of the outfall diffuser shaft. The location of the diffuser shaft, as constructed, shall be clearly and accurately marked on a revised Admiralty Chart.

Reason: To ensure that the diffuser shaft and outfall tunnel can be accurately located and identified, to notify marine traffic.

42. All works to Arklow Bridge shall be the subject of a detailed Method Statement and shall be carried out under the supervision of a conservation engineer. Details of the Method Statement shall be agreed in writing with the planning authority prior to the commencement of development.

Reason: In the interest of orderly development.

Landscaping and Biodiversity

43. All amenity grassland and trees along the route of the interceptor sewer, temporary roadways, and other areas within the planning boundary of the site, which will have to be removed during the course of the construction works shall be re-instated in full within one planting season of the construction works being completed. Any trees which die, are removed or are seriously damaged within a period of 5 years from the completion of the development shall be replaced within the next planting season with others of similar size and species unless otherwise agreed in writing with the planning authority.

Reason: In the interests of biodiversity and visual amenity.

44. The wastewater treatment plant site shall be landscaped, using only indigenous deciduous trees and hedging species in accordance with details which shall be submitted to, and agreed in writing with the planning authority prior to the commencement of development.

Reason: In the interests of biodiversity and visual amenity.

45. Prior to the commencement of development, a new Bat Derogation Licence shall be obtained from the National Parks and Wildlife Service of the Department of Culture Heritage and the Gaeltacht.

Reason: To ensure the protection of bats and in the interests of biodiversity.

46. The Seafarers Memorial Garden shall be carefully dismantled, stored and re-instated. The contractor will be required to prepare a detailed method

statement for such works and this method statement shall be agreed with the planning authority prior to the commencement of development.

Reason: In the Interest of orderly development

Miscellaneous Conditions

47. All service cables associated with the proposed development (such as electrical, telecommunications, broadband and communal television shall be located underground).

Reason: In the interests of visual and residential amenity.

48. Details of all boundary treatment associated with the wastewater treatment plant and the Alps storm retention tank shall be agreed in writing prior to the commencement of development.

Reason: In the interests of visual amenity.

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Paul Caprani
Senior Planning Inspector
28th June 2019

The Compulsory Purchase Order

It is considered that the land take is reasonable and proportional for the stated purpose of providing and constructing a new Wastewater Treatment Plant, the construction of a storm water overflow and storm water storage tank and new interceptor sewers along the banks of the Avoca River together with all the ancillary works proposed. The Board is satisfied that the process and procedures undertaken by Irish Water have been fair and reasonable and it has demonstrated the need for the lands and wayleaves and that all the lands and wayleaves being acquired both permanently and temporarily to deliver the overall project are both necessary and suitable. The Board considers that the proposed acquisition of the lands would be in the public interest and the common good and would be consistent with the policies and objectives of the National Planning Framework, the Regional Planning Guidelines for the GDA, 2010-22 the Wicklow County Development Plan 2016-22 and the Arklow Local Area Plan 2018-24.

DECISION

CONFIRM the compulsory purchase order for the reasons and considerations set out below subject to the modifications set out in the Schedule.

REASONS AND CONSIDERATIONS

Having considered the objections made to the compulsory purchase order, the report of the person who conducted the oral hearing into the objections, the purpose of the compulsory purchase order and also having regard to:

(a) The need to provide a wastewater treatment plant and associated infrastructure that is designed to treat wastewater to at least secondary standard prior to discharge into any receiving waters in accordance with the requirements of the Urban Wastewater Treatment Directive (Council Directive 91/271/EEC) and the Urban Wastewater Treatment Regulations (SI 254 of 2001)

(b) The need to Improve the water quality and amenity of the Avoca River,

(c) the community need, and public interest served and overall environmental benefits, to be achieved from use of the acquired lands, and

(d) the provisions of the National Planning Framework, The Strategic Planning Guidelines for the Greater Dublin Area (2010-2022) the policies and objectives stated therein, which specifically identify the proposed road development

(e) the proportionate land-take to facilitate the to the identified need for both temporary and permanent acquisition of lands wayleaves and rights of way,

(f) the submissions and observations made at the oral hearing, and

(g) the report and recommendation of the Inspector,

it is considered that, subject to the modifications to the order as set out in the Schedule below, the acquisition of lands and wayleaves and rights of way both permanent and temporary by the Irish Water of the lands in question, as set out in the compulsory purchase order and on the deposited maps, are necessary for the purpose stated, and that the objections cannot be sustained having regard to the said necessity.

SCHEDULE

The compulsory purchase order shall be modified in accordance with details provided in the documentation submitted to the Board at the Oral Hearing on the 25th Day of January 2019 as follows:

For the purposes of clarity, the modified and amended documentation includes the following:

i. removal of the following plots from the CPO (Part 4 'Temporary Working Areas')
    - Plot No. 029
    - Plot No. 030
    - Plot No. 031
    - Plot No. 032

ii. the inclusion of Ms Elizabeth Kenny and Nicola Kenny, South Quay, Arklow as occupier of Plot No. Plot No. 64.

iii. the inclusion of Mr. Thomas Neary of South Green Arklow as occupier of Plot no. 065.

iv. The inclusion of Arklow Ferrybank Developments Limited, Inchanappa, Ashford, Co. Wicklow as reputed owner of part of the lands indicated as area 'Y' and shaded green on the map attached to the objection submitted to An Bord Pleanála on November 9th 2018 on behalf of Arklow Ferrybank Developments Limited in respect of Plot No. 50.

Reason: To take account of updated information in respect of land ownership and reduction in area of plots to be acquired.

APPENDIX 1

14.0 Proceedings of Oral Hearing for SID WWTP Application

14.1. Introduction

An oral hearing in relation to the strategic infrastructure development application for the WWTP, long-sea outfall and associated works including the provision of interceptor sewers took place on 22nd and 23rd January, 2019 at the Arklow Bay Hotel, Arklow. The oral hearing commenced at 10 a.m. with opening comments and introduction from the Inspector. On the conclusion of the inspector's introductory comments, and a roll call of the attendees, the inspector then called upon Irish Water to make its formal submission to the hearing.

14.2. Irish Waters Formal Submission to the Oral Hearing

Mr. Jarleth Fitzsimons, Senior Counsel and Barrister-at-law indicated on behalf of Irish Water that it was proposed to make 15 separate formal submissions to the hearing and these submissions are briefly summarised below:

Witness Statement of John Joyce – Introduction and Overview of Scheme – (Submission No. 1 &1A)

14.2.1. Mr. John Joyce stated he was the Irish Water's Programme Project Manager for the subject scheme. His submission set out the need for the scheme and gave a brief overview of the history of proposals for wastewater treatment at Arklow. The submission went on to set out details of the public consultation and an overview of the proposed project. This overview made specific reference to the architectural building design to be incorporated at the wastewater treatment plant. By way of conclusion it was emphasised that it has been over 25 years since planning permission was first granted for the wastewater treatment plant and that there is a particular urgency to stop the continued discharge of untreated wastewater into the Avoca River. The submission highlights the need for the proposed development in the context of complying with the Urban Wastewater Treatment Directive and also to improve public health and the environmental integrity of the Avoca River.

Statement of Evidence by Olwyn James – Planning Policy Context (Submission No. 2)

14.2.2. This submission sets out details of the application and also makes reference to the planning need for the scheme. The submission goes on to specifically set out the proposal in the context of its compliance with strategic and local planning policies and objectives set out in various documentation referred to. In this regard reference is made to Ireland's obligations under the Water Framework Directive and the Urban Wastewater Treatment Directive. It is stated that the proposed development will ensure that wastewater treatment in Arklow complies with both DIrectives. Reference is also made to *the White Paper on Ireland's Transition to a Low Carbon Energy Future 2015 to 2030*. It is stated that the proposed development is fully in accordance with the strategic objectives of this document. The witness statement also argues that the proposed development is fully in accordance with water infrastructure objectives set out under the *National Planning Framework* and the *Infrastructure Capital Investment Programme 2016* to 2021. The submission goes on to set out details as to how the proposed development complies with:

- The Water Services Policy Statement 2018 to 2025.
- The Regional Planning Guidelines for the Greater Dublin Area and the Infrastructure Capital Investment Programme 2016 to 2021.

14.2.3. The submission notes that the proposed development is fully in compliance with the objectives of the National Wastewater Sludge Management Plan which sets out a nationwide standardised approach for managing wastewater sludge over the next 25 years. Details of how the Water Services Policy Statement 2018 to 2025 is also set out in the submission.

14.2.4. The submission goes on to address how the proposed development is in full compliance with both the Wicklow County Development Plan 2016 to 2022 and the Arklow Local Area Plan 2018 to 2024. Reference is made as to how the proposed development complies with settlement strategies, infrastructure policy and zoning provisions contained in both plans.

14.2.5. The submission argues that the proposal meets the various objectives and policy statements contained in Irish Water's Water Services Strategic Plan, Irish Water's Business Plan and Irish Water's Capital Investment Plan. Specifically, it is noted that the project is included in Irish Water's Capital Investment Plan and the required funding has been obtained and is available to complete the planned works.

14.2.6. The final section of Ms. Olwyn James's submission specifically addresses concerns set out in the observation submitted in relation to planning and zoning related matters. In relation to planning conditions, Irish Water note the submission of Wicklow County Council's Chief Executive Report and considers the suggested conditions contained in the said report are reasonable and implementable. It is noted that Wicklow County Council has recommended that no financial contributions are required and Irish Water welcomes this as the proposal fully benefits the people of Arklow.

Witness Statement of Michael Tinsley – Site Selection Issues (Submission No 3)

14.2.7. This submission sets out a summary of the site selection process and notes that a Phase 1 Site Assessment Report was completed and published in October, 2014. It is noted that a Phase 2 Site Assessment Report was completed and published in May, 2015. Details of the environmental criteria and the technical/economic criteria for each of the alternative land parcels and transfer pipeline routes etc. are set out in the submission. Detailed public consultation was also undertaken in relation to Phase 2 of the site selection process and this is set out in the submission. On the basis of this multi-criteria analysis together with the public consultation process, The Old Wallboard Factory site was considered to have a number of advantages over the other two preferred sites identified (the Kilbride Site and the Shelton Abbey Site). Finally, the witness statement addresses specific concerns raised in the observations with regard to the methodology employed in reaching a decision on the preferred site. The witness statement concludes by stating that Irish Water has robustly considered and evaluated the reasonable alternative sites to accommodate the WWTP.

Witness Statement of Aidan McCarthy – Construction Issues for the Interceptor Sewer (Submission No 4, 4A &4B).

14.2.8. This witness statement specifically related to the construction of the interceptor sewers. It sets out details of the basis of design for the interceptor sewers. In this regard, it is noted that it was necessary that any interceptor sewer would intercept flows at the point of discharge to the Avoca River hence the north and south banks of the Avoca River are considered to be the only viable location for the proposed interceptor sewers. Three options were also identified for the proposed transfer of flows across the river. The preferred location of the crossing, between Harbour Road and Mill Road, was identified as most suitable as it was easier to intercept existing and proposed flows at this location and would result in limited conflict with potential works associated with the Arklow Flood Relief Scheme. In terms of integrating the Interceptor Sewer with the Arklow Bridge crossing, it is noted that the proposal to lay the pipe within the river through an existing arch was considered to be the preferred option in terms of minimising impact on traffic and local residents. The pipeline sizing is based on a 50-year design horizon incorporating climate change factors. The pipeline depth between 2 and 14 metres below ground level is appropriate to ensure that all connected flows would be conveyed by gravity thus eliminating any requirement for pumping stations.

14.2.9. The submission goes on to detail the sequencing, duration and phasing of the proposed works. Also detailed in the report is a proposed modification which seeks to remove tunnel shaft no. 2 on the South Quay (TSS2). This tunnel shaft was located between South Green and Harbour Road. This omits the requirement for temporary working areas at a group of four properties at South Quay with the consequential elimination of some of the impacts associated with these residential properties. The modification now proposed by Irish Water means that a longer ‘S curve micro tunnel’ will be required between TSS1 and TSS2A i.e. between the tunnel shaft at South Green/South Quay and the tunnel shaft at Harbour Road and South Quay. The drive length of the tunnel shaft will now be 258 metres compared with the previous drive lengths of 97 metres and 168 metres. The duration of the works at TSS1 will increase from 3 months to 5 months. As a result, the temporary working areas provided for the construction of TSS2 will no longer be required.

14.2.10. The submission also proposes an alternative traffic management arrangement at North Quay to the immediate west of the Bridgewater Shopping Centre. New traffic management proposals to remove the requirement for a full road closure along this section of North Quay. Instead a single lane closure is proposed which will result in one-way traffic along North Quay travelling between the Ferrybank Roundabout and the Aldi / Bridgewater Shopping Centre will be permitted at all times during the construction programme. This will reduce the volume of traffic expected to use Seaview Avenue. Detailed maps of the revised arrangements accompany Mr. McCarthy's submission.

14.2.11. Finally, the submission sets out specific responses to concerns raised in third party observations in relation to structural damage, noise, dust and disturbance.

Witness Statement of Andrew Clancy – Architectural Appraisal of the WwTP (Submission 5 &5A)

14.2.12. This witness statement specifically deals with architecture and design issues associated with the proposed wastewater treatment plant. It sets out details of the rationale behind the architectural approach. It is stated that Irish Water carried out significant research in relation to the existing physical context. A key consideration would be that any wastewater treatment plant on the subject site would reflect the existing industrial landscape. It was also important that the maritime theme associated with the Arklow Docklands would be incorporated into the design approach. The treatment of the façade was adjusted and re-worked several times on foot of comments from Wicklow County Council. It is stated that the landscaping strategy and design evolved in tandem with the buildings. The architectural approach was informed on foot of stakeholder consultation exercises and to ensure that it complies with relevant statutory documents.

14.2.13. Finally, the submission sets out detailed responses to the various issues raised in relation to the visual impact set out in the various third-party observations submitted to the Board. A schedule of drawings and photographs were also submitted with this witness statement.

Witness Statement of John Kelly – Landscaping Issues (Submission 6 &6A)

14.2.14. This witness statement specifically related to landscape and visual issues. This submission sets out the approach in respect of the landscaping arrangements for the wastewater treatment plant, the interceptor sewers and the Alps stormwater overflow. It notes that the nature of the proposed development is such that the landscape and visual effects would primarily be direct effects with some indirect effects during the construction associated with construction traffic movement and transport of materials to and from the proposed facility. The detailed landscaping proposals are set out in relation to each of the constituent elements of the proposal. It acknowledges that the wastewater treatment facility will have the greatest visual impact. However, the development is designed to be a contemporary interpretation of the historical industrial character of the site and it is considered that the proposal will have a significant/moderate effect on the landscape/townscape. However, this will become neutral over time as the change becomes more accepted. The interceptor sewers will be constructed below ground and the construction activity will give rise to negative landscape and townscape effects. However, these effects will be temporary in the short term. The interceptor sewers will have no adverse visual effects during the operational phase. The stormwater overflow at the Alps will be substantially below ground level and will not be visible. The fenced infrastructure compound along the riverbank has the potential to be locally significant. However, this impact will reduce over time and the impact is deemed to be moderate/slight. Accompanying photos and photomontages were submitted with this statement of evidence.

Witness Statement of Sinead White and Darragh White - Air, Odour, Noise and Vibration Issues (Submission No. 7)

14.2.15. This witness statement was read into the record by Sinead White. In relation to air quality it is stated that air dispersion modelling assessment was carried out to assess the temporary effects of emissions associated with the operation of the generator to be used during the construction works. This appraisal concluded that air quality standards will be complied with during the operation of the generator. It is expected that the generator would be in any location for a maximum of six months.

14.2.16. In respect of odour reference is made to UK documents which states that odour standards should be between 1.5 and 6 OU/m^3 at a 98 percentile of 1-hour

averaging periods at all receptors. Having regard to the sensitive receptors in the surrounding environment, an odour limit value of 3 OU/m^3 at both the site boundary and the nearest sensitive receptor is proposed. The modelling assessment concluded that emissions due to discharge from the emission vent stacks would adequately comply with a ground level limit value of 3 OU/m^3.

14.2.17. In relation to noise and vibration, it is stated that in general, construction noise levels are predicted to comply with the proposed noise and vibration limit values. However, where certain construction activities such as interceptor sewer works, and shaft construction are taking place in close proximity to residential locations, there is a potential for limit values to be exceeded. These potential exceedances are calculated based on indicative construction methodologies in the absence of mitigation measures. The submission goes on to set out the mitigation measures to be provided.

14.2.18. It is noted that there is a potential for significant ground borne noise to be generated from the operation of the tunnel boring machine. However, these impacts are expected for a maximum duration of six days which represents a temporary impact. Continuous noise monitoring will be carried out at three nearest sensitive receptors to the works.

14.2.19. With regard to vibration issues, details of the limit values which are required to be complied with are set out in the submission. It is stated that vibration is likely to be generated during the piling and tunnelling works. However, the vibration levels are predicted to comply with limit values. Continuous vibration monitoring will be carried out at the three nearest sensitive receptors to the works in order to demonstrate compliance with limit values. The submission goes on to set out the mitigation measures which are proposed to reduce the potential impact arising from vibration.

14.2.20. Finally, the submission specifically addresses concerns raised in third party observations in relation to air quality issues, odour issues and ground and vibration issues.

Witness Statement of Eleanor Mayes and Brian Deegan – Biodiversity Issues (Submission No. 8)

14.2.21. This witness statement was read into the record by Brian Deegan and it specifically related to biodiversity issues and the appropriate assessment exercise carried out under the Habitats Directive. This submission states that the potential adverse impact of the proposed development on biodiversity is primarily direct effects and arise principally during the construction phase. Vegetation will be cleared from working areas and this could give rise to disturbance and habitat deterioration. The witness statement goes on to summarise the biodiversity chapter in the EIAR.

14.2.22. With regard to Appropriate Assessment, it is noted that a Stage 1 screening for appropriate assessment was carried out and it was concluded that three European sites had the potential to be affected by the proposed development. For this reason, the assessment was brought forward to a Stage 2 Appropriate Assessment and the preparation of an NIS. The Stage 2 Appropriate Assessment evaluated in more detail, the potential effects on habitats and species associated with the three Natura 2000 Sites in question. It concluded that, with the implementation of mitigation measures, which are set out in Section 9.1 and 9.2 of the NIS, the proposed development would not result in any direct, indirect or cumulative impacts on the qualifying interests any of the Natura 2000 sites in question but particularly the Buckroney – Brittas Dunes and Fen SAC (Site Code: 000729), which is the closest site to the WWTP and outfall. The witness statement goes on to specifically address concerns raised in third party observations. Including observations made by the Department of Culture, Heritage and the Gaeltacht in respect of potential sediment displacement during the laying of the long sea outfall which could potentially impact on the Buckroney – Brittas Dunes and Fen SAC.

Witness Statement of Faith Bailey – Archaeological and Architectural and Cultural Heritage Issues (Submission No. 9)

14.2.23. This witness statement specifically related to archaeological, architectural and cultural heritage issues. The submission notes that there are 8 recorded monuments within the receiving environment of the proposed development and 16 protected structures. It is further noted that while there are more than 173 recorded ship-wreck events associated with the Avoca River and the Arklow Coast, there are no known or

recorded wreck sites within the area which was the subject of the geophysical survey and dive. It is also noted that it is possible that excavations associated with the underpinning of Arklow Bridge may have potential impact on previously unrecorded archaeological features. Furthermore, it is noted that possible archaeological remains may be unearthed during construction works.

14.2.24. In respect of the wastewater treatment plant site, it is noted that this site is located on reclaimed estuary lands and that modern construction has already disturbed the site. All ground excavations associated with the proposed development will be monitored by a suitably qualified archaeologist. The submission goes on to specifically address issues raised in the third-party observations submitted to the Board. It concludes that the proposed development will not result in any significant direct or indirect effects on archaeological, architectural or cultural heritage resources in Arklow.

Witness Statement of Andrew Wilkins and Owen Wyse - Land and Soil Issues (Submission 10)

14.2.25. This witness statement specifically relates to land and soil issues. It is noted that a conceptual site model covering soils and groundwater beneath the site was prepared using data from public available information, and site walkovers together with specific ground investigations. During the construction phase, a number of activities were identified which could have a potential impact on the surrounding environment. These included earthworks, storage or transition of leachable/hazardous materials, the lowering of groundwater levels by pumping or drainage and the excavation of materials from above and below the water table. As per specific instruction from the Board[9], the cumulative impacts in the context of other development was also assessed in this witness statement. Details of possible cumulative effects due to the flood relief scheme were highlighted and it is concluded that no significant cumulative effects on land and soil associated with the proposed development will arise.

[9] The Inspector noted that there was no specific sub-heading dealing with cumulative effects in relation to Land and Soil Chapter of the EIAR. The applicants were specifically requested to address this issue during the proceedings of the Oral Hearing and this point was included in the agenda circulated to all parties in relation to the Oral hearing.

14.2.26. Finally, the submission addresses issues raised in third party observations and specifically the request from the GSI that digital photographic evidence of any significant new excavations which may arise during the construction work will be passed on to the GSI. Irish Water is happy to accede to this request.

Witness Statement of Anthony Cawley – Flooding Issues (Submission 11)

14.2.27. This witness statement specifically addresses potential impacts on flooding. It notes that flooding in Arklow is cause by both fluvial and tidal sources. The proposed Arklow Flood Relief Scheme seeks to protect the town against a 100-year return period fluvial flood event and a 200-year tidal storm surge event. The Witness Statement notes that the proposed wastewater treatment project is cognisant of the proposed flood relief scheme but is not reliant on the provision of such a scheme for its advancement. A co-ordinated approach between both schemes should reduce the cost, potential disruptions and likely significant effects of constructing the scheme.

14.2.28. The statement notes that the encroachment into the Avoca River to facilitate the interceptor sewer will reduce the capacity in the channel by an average of 4.3%. Such a reduction in flow decreases the flood flow conveyance capacity of the channel which increases the potential for upstream flood levels. However, this is only critical to fluvial flooding events and is of no consequence to coastal storm surge flooding. Hydraulic simulations were carried out to assess the potential impact arsing from any changes proposed. It is noted that Arklow Bridge is a significant constriction on flows and the bridge afflux causes flood waters to overtop banks and flood Arklow from upstream of Arklow Bridge. The proposed permanent encroachment within the river for a width of 6 metres may cause a 3.3 centimetre rise in flood levels immediately downstream of the bridge and an increase upstream of the bridge of 1.9 centimetres. In order to mitigate the flood impact produced by the proposed encroachment of the river channel on upstream flood levels and the resulting flooding in Arklow Town, it is proposed to lower the channel bed at the second-most southerly arch by 1 metre. Such a measure is shown to eliminate any increase in upstream flood levels which results in no worsening of the flood risk of Arklow Town under the worst-case design flood event. The timely removal of sections of causeway in a sequential manner will also mitigate against potential flood impacts.

14.2.29. Finally, the witness statement addresses concerns in relation to flooding raised in the various third-party observations submitted.

Witness Statement of Dr. Martin Hogan - Human Health Issues (Submission 12)

14.2.30. This witness statement specifically related to human health issues. The submission examines the potential impacts arising on human health from traffic, air quality, odour, noise and vibration which will occur during the construction phase of the development. It concludes that apart from mild annoyance due to direct effects of traffic disruption and construction noise and vibration, significant effects on human health are not likely during construction. During the operational phase, impacts on human health in terms of traffic, air quality, odour and noise are also assessed. A similar conclusion is reached that the impacts during the operational phase are likely to be imperceptible and will not in any way adversely impact on human health. The submission also notes that under a do-nothing scenario, it is stated that inappropriate and improper treatment of human waste would continue, and this would give a potential for transmission of disease which from a public health perspective is intolerable.

14.2.31. Finally, the submission sets out a response to the various concerns raised in the third-party observations in relation to noise, air quality and odour and the removal of asbestos and vermin control associated with the construction works.

Witness Statement of Tony Lynch – Transportation and Traffic Issues (Submission 13)

14.2.32. Mr. Lynch's statement specifically relates to traffic issues. It is stated that during the operational phase, the impact of the proposed development in terms of traffic would be negligible with a projected increase of traffic flows of between 10 and 20 additional trips per day from the wastewater treatment plant.

14.2.33. The submission sets out the various stages of road closures and traffic diversions which will be put in place in sequential stages throughout the construction period in order to set down the alignment of the interceptor sewer. The submission also sets out the various mitigation measures which are to be employed to reduce the potential adverse impact which are likely to arise on traffic circulation. It concludes

that the impacts during the construction works will be temporary and will generally be moderate in nature with greater impacts on traffic flows expected during some work stages including the required construction works on Arklow Bridge and the section of North Quay between Ferrybank and the Bridgewater Shopping Centre.

14.2.34. Finally, the submission sets out specific responses to concerns raised in the various third-party observations in relation to traffic.

Witness Statement of Clodagh O'Donovan - EIA Issues (Submission 14, 14A, 14B, 14C & 16)

14.2.35. This submission sets out an EIA report overview and sets out details in relation to the need for EIA and the consultation undertaken in respect of EIA. Details of the informal scoping associated with the EIAR and the EIAR structure is also set out. The submission also refers to the relevant legislation and guidance in preparing the EIAR so as to ensure that the EIAR was in full compliance with the relevant requirements. On foot of a request from the Board,[10] the EIAR also sets out in tabulated form, the potential environmental impacts and the measures which will be undertaken to address these impacts. The table also differentiates between direct and indirect impacts arising from the proposal. A separate table is also included which sets out how the EIAR complies with Article 5 and Annex 4 of Directive 14/52/EU.

14.2.36. Finally, this witness statement, as in the case of the other statements, directly addresses concerns highlighted in third party observations with regard to the content contained in the EIAR.

14.2.37. By way of conclusion the witness statement states that the EIAR submitted has been prepared in accordance with relevant legislation and best practice

Witness Statement of Jarleth Fitzsimons SC - Legal Issues (Submission 15)

14.2.38. This final statement on behalf of Irish Water sets out the principle issues of law which arise for consideration by the Board on the application before it. It notes

[10] The Inspector noted that the EIAR did not formally differentiate between Direct and Indirect impacts in the various chapters. In the agenda circulated to parties before the hearing, Irish Water were formally requested to address this omission during the proceedings of the Oral Hearing.

that the substantive consideration for the Board in adjudicating on the application is the proper planning and sustainable development of the area and the likely consequences on same. It is argued that the relationship between sustainable development and the need for development is a material consideration in the case of the current application. It is noted that the practice of discharging untreated wastewater into the Avoca River is not compliant with Ireland's obligation under Council Directive 91/271/EEC. The submission also points out Irish Water's obligation to have regard to statutory plans. The submission also sets out Irish Water's obligation in respect of the EIA Directive and the Habitats Directive and the Board's requirement to have regard to both of these Directives in assessing the application before it. In relation to the latter, the Board is invited to reach determination that the proposed development will not affect the integrity of any relevant European site.

14.2.39. At the end of the first day's proceedings, the presiding Inspector requested Irish Water to comment on whether or not it considered using Aerobic Granular Sludge (AGS) technology for the Arklow WWTP, as this technology is proposed to be used in Irish Waters current application before the Board in respect of the Ringsend WWTP. The Inspector noted that the employment of such technology may in the case of Arklow eliminate the need for the long sea outfall. Irish Water indicated that it would comment more fully on this matter in the morning of Day 2 of the Hearing.

14.3. **Wicklow County Council's Submission to the Oral Hearing**

Mr. Fergal Keogh Senior Engineer on behalf of the Council indicated that Wicklow Co Council will not be making a formal statement to the hearing but was available to answer any questions should they arise.

Withdrawal of Objection from Aldi Retail Stores Ltd.

Mr Niall Handy Barrister-at-law representing Aldi Retail Stores, stated that while he intended to made a submission at the hearing on behalf of Aldi, but having perused revised documentation submitted at the hearing, specifically in relation to traffic, Aldi Retail Stores are now satisfied with the revised traffic arrangements proposed and

as such, it wishes (a) not to make an observation in respect of the SID Application and (b) also wishes to withdraw its objection in respect of the CPO.

This concluded Day 1 of the Oral Hearing.

Day 2

Clarification of Technology to be used in the WWTP

14.4. Prior to the submission from the observers, the planning inspector asked the Irish Water to clarify whether or not it considered using AGS technology as part of the wastewater treatment project at Arklow. The planning inspector noted that Irish Water intended to employ such a technology in the case of the Ringsend Wastewater Treatment Plan. In response Irish Water stated that it would not rule out any options in relation to the type of technology/biomass to be used in the treatment of wastewater. However, it noted that in the case of the wastewater treatment plant at Ringsend, the original proposal was to tunnel a long sea outfall through bedrock a distance of 9 kilometres to the discharge point. This would prove to be a very expensive undertaking and for this reason AGS Technology is proposed to be employed. Furthermore, in the case of the Ringsend Wastewater Treatment Plant there is an obligation for any treated effluent to comply with strict nitrogen and phosphorous standards as the outfall is discharging into transitional waters which are designated as sensitive waters under the Urban Wastewater Treatment Regulations (S.I. 254 of 2001). There is no such requirement to comply with nitrogen and phosphate limits in the case of the Arklow Wastewater Treatment Plant as the outfall is not located within designated sensitive waters. It was also stated that the foot print of the Ringsend Plant was very restricted, and this limited the expansion options in order to increase capacity at the plant. No such issues arise in the case of Arklow. Therefore, Irish Water argue that the employment of AGS Technology may not be warranted or justified in this instance.

Irish Water's formal submission to the oral hearing was concluded at this point.

14.5. **Proscribed Bodies**

The planning inspector then requested whether or not any of the prescribed bodies which made a formal submission to the Board might wish to make an oral submission at the hearing. There were no prescribed bodies present.

The planning inspector then requested that third-party observers would make their submission to the hearing.

14.6. **Formal Submissions from Third Party Observers**

Submission on behalf of Arklow Marine Services - Submission No. 17

14.6.1. This submission was made by Frank O'Gallachoir, Planning Consultant and Billy Tyrell owner of Arklow Marine Services. Mr. O'Gallachoir emphasised two concerns in relation to the proposed development.

14.6.2. Firstly, that the applicant is a commercial boat builder and repairer and his family have worked in this industry in Arklow for many generations. Concerns are expressed that the proposed wastewater treatment plant during the construction phase could give rise to access issues to and from the observer's commercial property. The enterprise relies on manoeuvring large boats up to 27 metres in length in and out of the shed/workshop. Currently the observer can deconstruct the fence along the western boundary of the Old Wallboard Factory in order to ensure that there is sufficient space to manoeuvre boats in and out of the premises. It is suggested that with the construction of the wastewater treatment plant, such manoeuvrings may be curtailed which could adversely impact on the appellants business.

14.6.3. Secondly, and in the longer term, the applicant is hoping to develop the subject site for retail and residential development. It is noted that the applicant has obtained planning permission for a mixed residential and retail use on the site. Concern is expressed that the provision of a wastewater treatment plant on the subject site could adversely impact on residential amenity and could adversely impact on the development potential associated with the site.

14.6.4. Mr O'Gallachoir questioned whether the docklands area is a suitable site in order to accommodate a wastewater treatment plant. It is suggested that this area might be

better utilised as for dockside industry specifically in relation to wind farm development. It is stated that onshore wind farms are a growing industry and is particularly important at the Arklow Bank.

14.6.5. It is considered that the architectural style of the building is somewhat “boxy” and that no photomontages were submitted showing the impact of the proposed wastewater treatment plant from the seaward side.

14.6.6. A separate submission from Billy Tyrell outlined details in relation to the company and notes that the company currently employs 25 personnel including five apprentices.

14.6.7. In relation to access arrangements it is stated that when launching a vessel, the enterprise uses a heavy haulage specialist to lift, transfer and deliver the vessel to the quayside. The typical builds range from a 15-metre-long steel trawler to a 27 metre long passenger ferry.

14.6.8. While it is acknowledged that the project is long overdue, it is argued that the proposal may not be at the right location. Also concerns were raised in relation to the lack of consultation with the public. It is stated that Irish Water have only one chance to get this right and the people of Arklow are going to be stuck with the decision for generations to come. Photographs are attached showing the manoeuvring of boats in and out of the subject site.

Submission from Pat Ivory

14.6.9. This submission comprised of a verbal submission to the Board. No written submission was made. In his short submission Mr. Ivory stated that he was 100% behind the proposed development but expressed concerns that the proposed tunnel shaft at Harbour Road/South Quay is a mere 25 metres from his front door. Concerns are expressed that the proposed development could adversely impact on the structural integrity of Mr. Ivory’s dwelling and that he would be required to live adjacent to a building site for a very long period of time.

Submission from Ms. Sophie Meeres.

14.6.10. Ms. Meeres did not submitted a written statement. Ms. Meeres stated that while she did not live in Arklow nor was she from Arklow, she had a long association with the town and considered it to be a very beautiful and picturesque settlement. Ms. Meeres stated that she was an academic from UCD and had carried out many student projects in an around Arklow and as a result got to appreciate and understand the uniqueness of the town. Concerns were expressed that there was no adequate public consultation in respect of the proposed development and the proposal will constitute a major adverse visual impact.

14.6.11. It is suggested that the site selection process was fundamentally flawed, and that Irish Water should have given serious consideration to locating the wastewater treatment plant at the Roadstone quarry site to the south of Arklow. It is suggested that the northern part of this site incorporates a flat plateau which has been worked out and would adequately facilitate a wastewater treatment plant. Concerns are also expressed that Irish Water, in treating the effluent to secondary standard, is only doing the bare minimum in terms of wastewater treatment. It is not fully understood why tertiary treatment options are not included as part of the layout and design of the plant.

14.6.12. This section of Arklow has a very rich fishing and maritime heritage and the placing of a wastewater treatment plant within the dockland area is a totally incongruous and inappropriate addition.

14.6.13. Concerns were also expressed that the subject site is located on a floodplain and would be subject to periodic flooding.

14.6.14. With regard to issues concerning the public realm, reference is made to Mr. Andrew Clancy's submission on behalf of Irish Water specifically in relation to the architectural treatments of the buildings. While Mr. Clancy showed examples from Scandinavia and in particular Copenhagen (see submission 5A) where large industrial type installations have been successfully incorporated into the urban fabric, Ms. Meeres argued that the examples shown have street frontage whereas the proposed wastewater treatment plant in Arklow is located behind perimeter boundaries and therefore does not incorporate any active street frontage. This is poor in terms of urban design.

14.6.15. Reference is also made to the Arklow Local Area Plan where it is noted that it is vital that the coastal area around Arklow is accessible. It is argued that the proposed wastewater treatment plant together with the augmentation of the revetment would be contrary to this policy statement. The oral submission went on to argue that the proposed development is contrary to many stated policies and objectives contained in the Arklow LAP which seeks to revitalise the waterfront to create an active vibrant urban area. It is argued that the proposed wastewater treatment plant 'turns its back on the town'. It is noted that the subject site is located in an area designated as 'Flood Zone C' according to the Flood Risk Assessment Study. In such a scenario it is suggested that there is no need for such large revetment augmentation works along the coast.

14.6.16. It is suggested that the specific inclusion of a wastewater treatment plant under the zoning objective relating to the site is totally inappropriate and undermines the wider zoning objectives to create a vibrant and active water frontage along this section of the town.

14.6.17. Reference is made to the surface water tank to be located at the Alps adjacent to the Riverside Walk. It is stated that the size and scale of this water retention tank together with the proposed fencing around the tank is totally inappropriate and takes away from the context and setting of the remains of Arklow Castle. It is suggested that the water tank at the Alps is located far too close to the curtilage of the castle. It is suggested that the remnants of Arklow Castle are not adequately shown in the photomontages submitted. The proposed fencing and tank will have a fundamental impact on the riverside walk and will be detrimental to the amenity of the area.

Submission by Stephen Kavanagh on behalf of Ferrybank and Seaview Residents Association (Submission No.18)

14.6.18. The written submission made on behalf of the Seaview Residents Association states that it is very anxious that a wastewater treatment plant be developed to serve the town of Arklow. The provision of a wastewater treatment plant will enable the town to avail of employment opportunities, provided appropriate wastewater treatment facilities are put in place. Arklow also has a vibrant maritime history and the future of that maritime association is set to continue with vast plans for wind energy and

aquaculture in the Irish Sea. The site location in an area which will be developed for maritime, residential and recreational development is totally inappropriate. It is suggested that the decision to locate the WWTP on the site in question appears to be largely economic. It is noted that the adjoining sites have the development potential to accommodate at least 200 residential units and the proposed wastewater treatment plant is incompatible with such development.

14.6.19. The submission goes on to further argue that the subject site is totally inappropriate for a development which will handle the town's entire sewage output. As with all mechanical systems, it is suggested that mechanical failure is inevitable at some point which will give rise to catastrophic effects on the amenity and the environment. The need to have wastewater treatment plants located away from residential dwellings is therefore paramount.

14.6.20. It is argued that the development will increase the likelihood of flooding which has had catastrophic effects on Arklow over the years. The proposal could increase the severity of the flood event.

14.6.21. It is not accepted that the derelict site in question will be greatly improved with the provision of a wastewater treatment plant. Concerns are also expressed in relation to the architecture proposed, and it is noted that, while previous uses may have been industrial in nature. They employed hundreds, if not thousands of people which contributed to the economic vibrancy of the town. The proposed wastewater treatment plant will provide no such employment.

14.6.22. It is argued that maintaining access and the right of way along the revetment is very important to residents and assurance is required that no attempts will be made to block access should the project go ahead.

14.6.23. Further information is required in relation to the chemical composition of the actual odour gases which will be released from the wastewater treatment plant. It is particularly worrying that the wastewater treatment plant will be located in an area where people come to get fresh air and exercise. The running track to the immediate north of the site is earmarked to receive a multi-million-euro investment and this facility may in time host national or international sporting events. The provision of such a recreational facility adjacent to a wastewater treatment plant would result in an unimaginable embarrassment for the town.

14.6.24. Mr. Kavanagh then showed a You Tube clip of a murmuration of thousands of starlings over the marsh area of Arklow Town. It is stated that these starlings roost at the wallboard site regularly. They have not been mentioned in the EIAR.

14.6.25. In relation to the outfall pipe, the residents would seek that Irish Water would ensure that there is no damage to any oyster reefs or kelp forests along the alignment on the sea floor.

14.6.26. In relation to traffic and transportation, it is stated that the residents have chosen to live in a quite community and the area has seen a very significant increase in traffic over the years. It is stated that there has also been an increase in commuters parking in the area to avoid parking fees elsewhere in the town. This is also contributing to congestion on Seaview Avenue. This situation will be greatly exacerbated by the traffic chaos which will ensue as a result of the wastewater treatment plant. At a residents meeting on the 21st January, 2009 the residents of Seaview Avenue unanimously voted in favour of having no access road opened onto Seaview Avenue. The area is a common law jurisdiction and the residents will reserve the rights under same. It is stated that the residents of Seaview Avenue came to an agreement with the owners of the Bridgewater Shopping Centre that no traffic would access the centre via Seaview Avenue. The current proposal contravenes this agreement.

14.6.27. There has been zero consultation with the residents in respect of the traffic management plan during the construction phase. Several residents have proposed alternative traffic management plans. However, these were never given a chance to be discussed.

14.6.28. Concerns were expressed that traffic travelling along Seaview Avenue, particularly HGV traffic, could impact on the structural integrity of the adjacent houses and the associated clay pipework serving the houses. A 3-ton restriction was implemented to protect dwellings in the first instance. The residents have the right to the quiet enjoyment of their property in law.

Submission from Arklow Ferrybank Developments Limited

14.6.29. This submission was made by Ray O'Malley on behalf of Emmet Stokes, owner of the lands in question. Mr. O Malley did not present the Board with a written statement. Mr. O'Malley stated that Mr. Stokes owns a site c.1 hectare in size

adjacent to the subject site proposed for development. This is known locally as the 'Foudi site'. It is noted that this site was included as part of the various sites considered for alternatives notwithstanding the fact it was a separate site, in separate ownership, with an extant permission for a mixed-use development. Irish Water did not appear to be aware that there was a 10-year permission on the subject site. While the applicant was more recently refused planning permission for an extension of the existing permission, it is nevertheless the applicant's intention to develop this site for housing in the long-term. It is stated that the proposed wastewater treatment plant will seriously hinder the development potential of the site for residential development.

14.6.30. It is argued that the zoning objective relating to the site seeks commercial and residential land uses which will add to the vibrancy and vitality of the town and will open-up the waterfront area for appropriate development. It is argued that the provision of a wastewater treatment plant is not compatible with this zoning objective and was merely appended to the permissible uses under this zoning objective, by Wicklow County Council as an afterthought in order to ensure that the use of the site for a wastewater treatment plant did not contravene the zoning objective.

14.6.31. Concerns are also expressed in relation to the visual impact arising from the development, particularly when viewed from the sea.

14.6.32. Emmet Stokes, owner of the site in question reiterated the point that Irish Water appeared to ignore the fact that there was an extant 10-year permission on the site when investigating suitable sites for a wastewater treatment plant. It is argued that the proposal would have massive negative consequences for the development potential of the site and that the proposed use of the site for a wastewater treatment plant is totally incompatible with the wider zoning objectives of the area. Finally, Mr. Stokes concluded by saying that the proposed wastewater treatment plant was located in the wrong location.

Witness Statement by Nichola Kenny (Submission 19 & 19A)

14.6.33. Ms. Kenny stated that herself and her mother are not opposed to the wastewater treatment plant but just have a few concerns about certain aspects of the proposed works.

14.6.34. Irish Water have stated that their houses will be surveyed before construction. Ms. Kenny asked would it possible to hire an independent engineer to carry out the survey and it is considered imperative that all residents in the area be given a written copy of the survey prior to construction.

14.6.35. The HSE stated that there should be a representative to deal with air pollution problems. Ms. Kenny fully endorses this and also states that contact details should be made available should issues arise.

14.6.36. Irish Water have indicated that where noise and vibration limits are being approached, mitigation measures will be put in place. However, Irish Water could go on to indicate "that it would be awkward to apply some of these mitigation measures"[11]. Ms. Kenny states that it would be extremely distressing and awkward to lose sleep because of noise and vibration.

14.6.37. Concerns are expressed in relation to disease carrying rodents which, it is argued, will become more prevalent during the construction phase.

14.6.38. Ms. Kenny asked the question what if the contractor does not put mitigation measures in place? and who will oversee to ensure that the contractor does put such mitigation measures in place?

14.6.39. Concern is expressed in relation to the proposed tunnelling, it is stated that the observer's elderly mother is a particularly susceptible individual in terms of noise and vibration affects as she has numerous health problems. Particular concern is expressed in relation to the potential for noise and vibration to cause stress.

Witness Statement by Mr. Peter Byrne

14.6.40. Mr. Peter Byrne of No. 4 Harbour Road expressed concerns that previous works undertaken by Irish Water on the Harbour Road area gave rise to significant destruction of property and also gave rise to malodours with the emptying of the existing wastewater storage tanks on Harbour Road. It also states that the existing damage done to houses along the road as a result of Irish Water works needs to be addressed and sorted out.

[11] According to the evidence of Ms Sinead Whyte when questions were put to her by the inspector after she presented her witness statement at the oral hearing.

14.7. **Additional Observations Submitted**

14.7.1. The inspector then asked if any observers wished to make a submission to the Board.

Observation by Louise Tracey of Tom Phillips and Associates, Town Planning Consultants and Jacqueline Haley of DBFL Engineers on behalf of Bridgewater Shopping Centre (Submissions 20 & 20A).

14.7.2. The opening statement by Ms. Tracey set out details of the existing Bridgewater Shopping Centre. Again, the Board are asked to note that the Bridgewater Shopping Centre is fully supportive of the proposed development but express concerns in relation to the traffic management proposals. Details of the traffic arrangements are set out and, while it is acknowledged that Irish Water proposed modifications to the traffic arrangements on North Quay and these are welcomed by the observer, the Bridgewater Shopping Centre nonetheless continues to have traffic concerns. While it is acknowledged that the diversion is temporary in nature, it would result in an increase in the vehicular exit route from the Bridgewater Shopping Centre by a distance of approximately 1.4 kilometres. This would have a detrimental impact to existing retailers particularly during the months of October to December which is the busiest time of the year.

14.7.3. The Bridgewater Shopping Centre are suggesting an alternative access route between the houses on Seaview Avenue and the Arklow Leisure Centre. This alternative route is expected to reduce the distance travelled by cars from 1.4 kilometres under the proposal by Irish Water, to 0.65 kilometres. It is stated that it will involve constructing a new temporary road south of Seaview Avenue for a distance of approximately 225 metres on lands owned by Wicklow County Council. Traffic using the new access would drive northwards from Seaview Avenue to the immediate east of the existing multi-storey car park serving Bridgewater Avenue. HGV vehicles associated with the construction of the wastewater treatment plant would continue along this Avenue to a point where it meets Mill Road and then onto the wastewater treatment plant. Retail traffic intending to use the shopping centre would double back at a proposed roundabout to the immediate south of the multi-storey car park and would enter the existing entrance at the car park.

14.7.4. A separate submission by Jacqueline Haley sets out details of this traffic management arrangement. The alternative road link is indicated on Section 3.2 of Ms. Haley's report.

14.7.5. Finally, the submission from Ms. Haley sets out a number of recommendations which, it is argued, should be included in any future traffic management plan to minimise any potential adverse impacts on the operation of the Bridgewater Shopping Centre.

Observation from Con Lyneagh

14.7.6. Mr Lyneagh did not hand in a written submission to the Board. Mr. Lyneagh stated that he attended all meetings in respect of the Arklow Local Development Plan. The observer lives on Ferrybank next to the Methodist Church and has serious concerns in relation to flooding in this area. The submission criticised Wicklow County Council for allowing development to take place along the North Quay which is exacerbating flooding in the area. It is also noted that the Alps stormwater tank and overflow is located on a floodplain. It is suggested that no further development shall be permitted on the floodplain. More details are required to know exactly where the proposed pipes will be situated within the ground and whether this would have consequential impacts on flooding. Further details are also required as to the exact location on any sheet piling works to be undertaken. Mr. Lyneagh stated that he wants the phone number and contact number of everybody involved in the project.

Submission from Pier Leonard (Submissions 21 & 21A).

14.7.7. This witness statement criticised Irish Water regarding the lack of engagement with local communities in respect of the project. It is also suggested that there is a significant lack of co-ordination with Wicklow County Council and the OPW regarding the Arklow Flood Relief Scheme.

14.7.8. It is argued that Arklow Town needs to promote tourism and that the observer has recently opened-up a pottery business on the South Quay. It is suggested that the noise and vibration and general disturbance arising from construction works will undoubtedly adversely affect her business and other commercial businesses in the area.

14.7.9. It is argued that the palisade type fencing at the Alps and stormwater tank is not appropriate for the setting and context of Arklow Castle.

14.7.10. Contrary what was stated by Irish Water, in the archaeology and cultural heritage submission to the oral hearing, it is argued that the quay walls in Arklow pre-date the famine era and do not date from the later 19th century as suggested. A written submission was submitted in this regard specifically in relation to the Arklow Quay Walls which states that the quay walls of Arklow Harbour were instituted in 1846.

14.7.11. It is suggested that Arklow Town's commercial core is heavily reliant on small scale businesses and will be built and supported by "small economics" i.e. small commercial enterprises. The proposed wastewater treatment works, and associated construction works over a three to four-year period will significantly and adversely impact on the economic potential of the town.

14.7.12. Finally, the submission expressed concerns in relation to the architectural treatment of the wastewater treatment plant. Rather than constructing the industrial buildings such as that proposed. It is suggested that any buildings should reflect the maritime heritage and incorporate a design reflecting the bow of a ship.

14.8. Questions and Clarification of Issues

Questions put to Irish Water

14.8.1. Mr. Bernard Kavanagh on behalf of Eilish Byrne and Pier Leonard put a number of questions to Irish Water in relation to construction works and in particular the methodology employed in calculating the anticipated noise and vibration impacts. Mr. Kavanagh suggested that the tunnelling associated with the interceptor sewer did not need to be carried out on a 24/7 basis. Reference was made to tunnelling which was undertaken in Sherriff Street, Dublin where tunnelling methods similar to that proposed under the current application were not carried out on a 24/7 basis.

14.8.2. A number of questions were put to Irish Water in relation to the construction and environmental management plan and it was suggested that the contents of the plan was somewhat vague and needs to be tightened up. Reference was also made to the Dart Underground oral hearing (NA0005) and in particular the consultant's report in relation to noise and vibration. Mr. Kavanagh applauded the said report and said that it provided very detailed classifications in relation to building damage, property protection and the property protection scheme. It was suggested that a similar type

methodology might be employed to ensure that no significant adverse impacts arise in the case of the Arklow wastewater treatment plant should it proceed.

14.8.3. Other questions were put to Irish Water in relation to noise and vibration and why a reduction of 10 dB(A) was included for both noise and vibration impacts in the methodology including in the EIAR. Concerns were also expressed that the EIAR failed to adequately assess the cumulative impact arising from old construction works undertaken at the same time.

14.8.4. With regard to the issue of traffic, a number of questions were put to Irish Water in relation to pedestrian activity which occurs on Seafield Road and the impact which the construction traffic would have on such activity. Irish Water also suggested that the alternative put forward by Tom Phillips and Associates on behalf of Bridgewater Shopping Centre did not include details of any sweep path analysis and could in fact have a greater adverse impact on vehicular pedestrian conflict than that proposed under the current scheme.

14.8.5. Questions were put to Irish Water in relation to traffic along the riverside and whether or not traffic will be curtailed during the construction works. Irish Water indicated that vehicular access would always be maintained to the riverside throughout the course of the works.

14.8.6. Further questions were put to Irish Water in relation to odour impacts and in relation to the chemical composition of the odour and whether or not the odour could adversely impact on recreation activities associated with the sports and leisure centre and the running track to the north. Irish Water suggested that the odour impact would be minimal and would not materially impact on recreational activities to the north of the WWTP.

14.8.7. Ms. Sophie Meeres put a number of questions to Irish Water in respect of the rendering of the buildings and the overall size and scale and architectural approach in respect of the wastewater treatment plant. Ms. Meeres argued that the wastewater treatment plan would have a poor architectural presence on the streetscape and on the town as a whole. She argued that further details were required in relation to the proposed render of the buildings. Irish Water contended that sufficient information was provided in the form of photomontages, drawings and rendering details in order to assist the Board in making its decision in relation to the application.

14.8.8. A number of questions were put to Irish Water with regard to the location of the Alps stormwater tank in the context of Arklow Castle and the observers reiterated that the proposed development at the Alps would impact on the setting and context of the castle.

14.8.9. Some questions were put to Irish Water in respect of flooding and a number of observers maintained that flooding would be exacerbated as a result of the proposed development. Irish Water suggested that measures were to be put in place to ensure that flooding would not in any way be exacerbated by the proposed development. Mitigating measures including increasing the depth of the channel of the river bed beneath Arch no.2 of the bridge would counteract any increased flooding threat. Irish Water stated that long term flooding elevation measures would be carried out as part of the Arklow Flood Relief Scheme and this would further protect against flooding.

14.8.10. The questioning pursued by the third-parties highlighted the need for a comprehensive construction management plan so as to ensure that all mitigation measures are strictly adhered to by the contractors. A proper communication plan including the provision of dedicated phone numbers/e-mail addresses of community liaison officers would have to be provided. Also details of the site contractor would also be provided.

14.8.11. That concluded the questions and cross examination at the oral hearing.

14.9. The planning inspector then invited parties to make closing submissions.

14.10. **Closing Submissions**

14.10.1. Ms. Sophie Meeres merely stated by way of her closing submission that the proposal constitutes an appropriate project in the wrong location.

14.10.2. Stephen Kavanagh on behalf of the Seaview Residents Association stated that the wastewater treatment plant was located in the wrong location and that the proposal could exacerbate flooding, traffic and odour problems. It is also suggested that the presence of a wastewater treatment plant so close to the town centre would hinder opportunities to provide high quality recreational land uses such as restaurants etc.

14.10.3. The closing submission of behalf of Nichola Kenny reiterated concerns in relation to health, potential impacts on structural integrity of buildings and the need for proper liaison and communication during the construction works.

14.10.4. The submission from Con Lyneagh suggested that the EIAR needed to be rewritten and re-evaluated in the context of the issues highlighted at this oral hearing. It is suggested that the EIAR is not comprehensive enough and that the proposal will undoubtedly exacerbate flooding in Arklow Town.

14.10.5. When asked by the Inspector Wicklow County Council stated that it was not intending to make a closing submission at the hearing.

14.10.6. The Inspector then invited Irish Water to make its closing submission. Mr. Jarleth Fitzsimons BL made the following submission by way of a closing statement.

14.10.7. It is argued that there is a wealth of documentation in relation to the proposed development which clearly allows the Board to make a reasoned and objective assessment of the proposed development. It is noted that none of the prescribed bodies which made submissions in respect of the application had any major problem in relation to the proposal and in this regard did not consider it necessary to attend the hearing.

14.10.8. It is argued that the proposal is beyond doubt in accordance with the proper planning and sustainable development of the area. All people who attended the oral hearing believe a wastewater treatment plant for Irish Water is needed and it is argued that the subject site is the most appropriate site for such a development. It is stated that the EIAR fully complies with all requirements and all alternative sites were adequately and comprehensively dealt with in detail. Exploring other alternatives would merely increase the time which it takes to provide this necessary and immediate requirement to provide a wastewater treatment plant. It is suggested that not everybody will accept the idea that a wastewater treatment plant should be located in proximity to their homes and dwellings particularly in an urban area. It is argued that the consultation undertaken by Irish Water was meaningful and comprehensive and this is adequately illustrated by the fact that Irish Water are willing to make modifications in relation to the removal of tunnel shafts and traffic access arrangements in order to allay the concerns of the public.

14.10.9. AGS Technology is not appropriate in this instance as the proposal constitutes new development which does not have a compact footprint such as the Ringsend Wastewater Treatment Plant and the fact that the development is discharging into coastal waters means that there is no water quality requirement in respect of total phosphorous and total nitrogen.

14.10.10. In relation to appropriate assessment it is stated that the NIS has clearly indicated that there is no impact on habitats and it is noted that the potential impact on qualifying interests associated with Natura 2000 sites did not form a major component of the hearing before the Board. This concluded the closing submission of Irish Water.

14.11. The Inspector formally closed the hearing at 5.00 p.m. on Wednesday 23rd January, 2019.

15.0 **Proceedings of CPO Hearing**

The CPO module of the hearing commenced at 9.30 a.m. on Friday 25th January, 2019. After introductory remarks from the Inspector Irish Water made the following formal submission to the hearing.

15.1. **Serving of New Notices of By Irish Water**

15.1.1. By way of introduction to the oral hearing Mr. Damien Kearney BL outlined details of the CPO process and notes that Thomas Neary and Nichola Kenny may have some legal rights on lands to the front of their houses which comprise of green space on South Quay. It is also noted that a Ms. Elizabeth O'Toole may have legal rights to Plot No. 20. However, she may have deceased. It is on the above basis that an amended schedule to the CPO was submitted to the Board at the oral hearing.

Mr. Jarleth Fitzsimons BL and Mr. Damien Kearney BL outlined the background to the CPO process and called upon three witness statements to be formally presented to the Board. These are summarised below.

Witness Statement of John Joyce

15.1.2. This witness statement set out the need for the scheme and specific reference is made to the non-compliance with the obligations under the Urban Wastewater Treatment Directive in discharging untreated wastewater to the Avoca River. It further notes that cleaner water will enhance Arklow's amenity value and could act as a platform for social and economic development. The witness statement went on to set out details of a brief overview of the scheme and sets out details of the lands to be acquired (4 plots amounting to 2.457 hectares), the permanent wayleave (22 plots amounting to 13.594 hectares), a permanent right of way (1 plot 0.089 hectares), temporary working areas (31 plots amounting to 1.747 hectares) and temporary construction rights (3 plots amount to 3.22 hectares). It is noted that as part of the CPO process supporting documentation has been provided in the form of an engineer's report, CPO drawings and land schedules.

15.1.3. The report goes on to set out the strategic planning policies and objectives as they relate to the site and reference is made to various policy statements and objectives contained in the Wicklow Development Plan and the Arklow LAP.

15.1.4. Details of the site and route selection are also set out and the final interceptor sewer route was chosen as it had advantageous over other routes considered in terms of minimising disruption to landowners and local communities while also conforming to best engineering practice. And taking cognisance of environmental route constraints and capital cost factors. Details of the site and route selection consultation report are also referred to in the submission.

15.1.5. It is stated that the Board will consider where particular lands are to be acquired, that these lands are suitable to meet the identified need for the scheme. It is stated to facilitate the safe construction of a tunnel shaft it was necessary to acquire temporary working areas at Plot Nos. 42, 44, 46, 47, 48 and 50. The working area is required to accommodate the following to enable construction.

- The tunnel boring machine control container to operate the TBM.
- The generator.
- Necessary ancillary equipment including lubrication plant, freshwater tanks, separation plant.

- Equipment store.
- Crawler crane.
- Pipe storage.
- Vehicle access/egress.
- Vehicle and pedestrian safety.

15.1.6. The Board will note that the scheme is being modified to omit tunnel shaft 2(TSS2) on South Quay and therefore there is no need to acquire temporary working areas Plot 29, 30, 31, 32.

15.1.7. It is stated it is necessary to acquire the permanent wayleaves at Plot 43 to facilitate the construction of a sewer and to connect Arklow Marina Village Apartments to the proposed interceptor sewer to stop the discharge of untreated wastewater.

15.1.8. The final part of Mr. Joyce's witness statement specifically deals with the objections raised in relation to the CPO.

Witness Statement of John Finnegan

15.1.9. This witness statement specifically related to the compulsory purchase order procedure. It sets out details of Irish Water letters to all landowners affected by the project dated 26th March, 13th April and 3rd May. On 10th May Irish Water issued "60-day" letters to the landowners. This comprised of a number of documents and landowners were afforded 60 days to sign an agreement and prove title. The letter also informs landowners of Irish Water's intention to make the CPO in relation to the lands should agreement not be reached, or title cannot be proven.

15.1.10. The submission goes on to set out the content of the making of the CPO. Details of the above notices and documentation are contained in an appendix to Mr. Finnegan's submission.

15.1.11. Prior to making the CPO the engineer's report and managing director's orders were prepared and signed (copy submitted to the Board). The CPO documents were signed by the Company Secretary and the Director of Irish Water. Subsequent to the making of the CPO, the CPO order "pack" was issued to landowners and occupiers and this included:

- The CPO cover letter.
- The landowner notices.
- Individual landowner drawings.
- Copy of the signed and sealed Compulsory Purchase Order.

15.1.12. The compulsory purchase order was put on public display at various locations. The public notices were then published in the newspaper with the objection date of 8 weeks post notification. Details of the objections submitted to the CPO were submitted and in consequence of the objections being made to the CPO, Irish Water appropriately applied for confirmation of the CPO by the Board. A separate folder containing documents referred to in the submission were also submitted to the Board.

Witness Statement of Mr. Aidan McCarthy and Sinead Carey

15.1.13. This witness statement was read into the record by Mr. Aidan McCarthy and it specifically related to engineering issues. It sets out the need for the development and an overview of the proposed scheme. It also sets out the reasons for seeking the acquisition of lands. As in the case of the other submissions, it states that several pipe routes and sites were examined as part of the proposed development and in deciding on the preferred option, it was concluded that lands not in the ownership of Irish Water, would need to be acquired for the purposes of permanent land acquisitions, permanent wayleaves, temporary wayleaves, temporary working areas and rights of ways. The submission sets out the alternatives considered in relation to the wastewater treatment plant, the design of the sewers, overflows, stormwater, storage tanks and the Avoca River crossing methodology. It also sets out details of the pipeline construction and notes that pipeline depths vary from 2 to 14 metres below ground level. Details of the overflows and the proposed stormwater storage tanks are also set out. On foot of the assessment of requirements the following was noted.

- Two sites were identified where the land would be permanently acquired. These were the site of the Alps SWO and the new wastewater treatment plant at Ferrybank.

- A wayleave was required for the initial pipeline corridor. The wayleave was generally taken to be full width of the road carriageway and grass verges where available (between 5 and 10 metres). As construction methodology techniques were developed further, consideration was given to temporary working areas that would be required to facilitate construction and maintain traffic movements resulting in a number of temporary works areas. Temporary works areas in the Avoca River were required to facilitate works at Arklow Bridge and the installation of a temporary causeway to facilitate the construction of the interceptor sewer and sheet piled wall along South Quay. Temporary construction rights and permanent wayleaves were required to facilitate the construction of the outfall at the wastewater treatment site. Temporary working areas were also required to accommodate contractors' compounds and access to tunnel shafts.

15.1.14. The submission goes on to set out the modifications involving the removal of TSS2 and the alternative traffic management proposals on North Quay. It is stated that throughout the development of design proposals, there has been a focus on sustainable and efficient design to minimise land requirements for both permanent and temporary work scenarios.

15.1.15. The final section of the witness statement specifically addresses concerns raised by objectors in relation to engineering matters concerning the CPO. The submission concludes by stating that due consideration was given to all the land requirements throughout the project design process and that mitigation including mitigation by design, has been adopted to alleviate negative impacts as far as practicable. The land requirements outlined in the CPO documents are considered to be the minimum land take necessary to facilitate the construction and operation of the project.

Witness Statement of Tracy Horn

15.1.16. This final formal witness statement on behalf of Irish Water related to consultation and related issues. It sets out a summary of all engagement with landowners and their representatives in respect of which an objection to the CPO has been made. It is set out on a plot by plot basis. Reference is specifically made to:

- Plot No. 29 – Christine McElheron which logs details of letters, telephone calls and e-mails in respect of this landowner.
- Plot No. 30 – Eilish Byrne – details of letters, telephone calls and e-mails.
- Plot No. 31 – Peir Leonard and Roger Prestage – a log of letters, e-mails and telephone calls.
- Plots Nos. 43 to 48 – Arklow Marina Village Owners Management Company Limited – logs of all letters, telephone calls and e-mails.
- Plot 50 – Arklow Ferrybank Developments – e-mails, telephone calls and text messages.

It concludes by stating that all reasonable endeavours were made to engage with landowners and/or their agents.

15.2. **Formal Submissions by Objectors**

Withdrawal of Objections

A submission by Niall Handy BL on behalf of Aldi Stores.

15.2.1. During the course of the previous oral hearing in relation to the SID application, Mr. Handy informed the inspector that on behalf of Aldi he wishes to withdraw the objection to the SID application and the CPO application. The withdrawal of the objection is on the basis that the traffic impact has been resolved and the access and egress route to the Aldi store on North Quay have been adequately addressed. On the basis of the modifications submitted and that these modifications form part of the plans and particulars of the CPO application, Aldi Stores formally withdraw their objection.

15.2.2. During the course of the oral hearing in relation to the CPO, Mr. Andrew Byrne of Arklow Marina Village Owners Management Company also submitted a letter to the Board stating that, on behalf of the Arklow Marina Village Owners Management Company, he was formally withdrawing his objection to the proposed CPO.

Submission from Arklow Ferrybank Developments Limited

A written submission was presented to the Board by Raymond O'Malley, Planning Consultant on behalf of Arklow Ferrybank Developments. It is summarised below.

This submission states that Arklow Ferrybank Developments Limited are the owner of a parcel of land labelled 'Y' in a map accompanying the submission. It is stated that this green land is within the boundary of the proposed wastewater treatment plant and has not been the subject to a temporary or permanent acquisition in the proposed compulsory purchase order. It is argued that this is a material error by the acquiring authority and cannot be retrospectively rectified without the objector's agreement.

It is also noted that the proposed CPO includes part of the objector's land which measures 0.36 hectares. This land is temporarily required for the duration of the construction works which are anticipated to last between 3.5 and 4 years. The loss of this land, albeit temporarily, would have an undue impact on the development potential of the lands during this period. It is noted that the site (referred to in this report as the 'Foudi' site) has a previous consent for 118 units and a recent extension of duration of that permission was only refused on the basis of non-compliance with the updated apartment standards. Foul drainage is already in place and the site is zoned, serviced and suitable and capable of redevelopment. However, the CPO as confirmed would unreasonably defer any redevelopment until post 2022.

Witness Statement by Bernard Kavanagh

15.2.3. This written statement submitted to the Board on behalf of Nichola Kenny suggests that there is some ambiguity between the texts of the Irish Water letter and one of the drawings which accompany the letter. Specific reference is made to Drawing C15-706, Rev 2 which indicates that the proposed planning boundary is still within the objector's property. As such, it is still legally uncertain as to whether or not Irish Water intend to proceed with the temporary CPO of lands within the objectors' gardens. It appears that Irish Water is now proposed not to install a tunnel outside the objector's property and this is most welcome. However, concern is expressed that there is no certainty in respect of the modification and that at some time in the future the appointed contractor may contend that it is not possible to construct the pipeline by tunnelling without an intermediate manhole. The objectors would like absolute assurance that in the event of the proposed scheme being approved by An Bord Pleanála, that a manhole cannot be sited at the location of TTS2 or within 50 metres of this location.

15.2.4. The remainder of the submission reiterates concerns expressed in the SID oral hearing which Mr. Kavanagh raised during his questioning and cross examination of Irish Water and these concerns related to tunnelling, the construction and environmental management plan, and noise and vibration impacts.

15.2.5. Finally, the objectors would seek a declaration from An Bord Pleanála that it was proper and necessary for them to engage a solicitor and consulting engineer to represent their interests in relation to the proposed CPO. It is contended that by virtue of the nature and complexity of the specialist material within the EIAR that it was necessary to engage in experts.

Formal Submission from Christine McElheron of 21 South Quay

15.2.6. Ms. McElheron stated that she was delighted to be dealing with the CPO. The original proposal for a tunnel shaft has created unnecessary stress, fear and anxiety notwithstanding the fact that it is now proposed to be removed. However, concerns are expressed that the removal of the bend in the river would push Irish Water's works along the South Quay closer to the residents and the residents' front gardens. She is also concerned that Irish Water require a permanent wayleave in order to facilitate the tunnel. Concern is expressed that there is scant information in relation to the noise generation and scant details in relation to the rehousing of residents in the vicinity should the noise and vibration impacts become unbearable.

15.2.7. Finally, the submission expresses concern in relation to potential of structural damage to homes arising from works along the tunnel alignment.

Witness Statement from Peir Leonard

15.2.8. Ms. Leonard reiterated the concerns in relation to the proposed construction and the level of stress, anxiety and fear that it brings to occupants in the vicinity of the proposed interceptor sewer, particularly older people. Concerns are expressed that Irish Water will not be able to stop the damage arising from the proposed tunnel in terms of structural subsidence etc. Ms. Leonard stated that she was very scared in relation to the works to be carried out. The proximity to the works to gardens are a particularly important consideration for the Board. The gardens are a very important source of amenity for young children living along South Quay. It is imperative that Irish Water take sole responsibility for any problems. The proposed project to date has led to a lot of personal and financial stress.

15.2.9. Finally, Ms. Leonard stated that 24/7 tunnelling is not required, and it can be done on a stop start basis as proved by the evidence of Mr. Bernard Kavanagh presented at the SID oral hearing.

15.2.10. That concluded the formal submissions of the objectors to the CPO.

15.2.11. The Board will note that Wicklow County Council did not make a formal submission in respect of the CPO.

Questions and Cross Examination

Irish Water put a number of questions to Arklow Ferrybank Developments and it was suggested that Irish Water have carried out substantial investigations with regard to property portfolios and could not find any reference to the assertion that Arklow Ferrybank Developments own the lands labelled 'Y' in their submission that this strip of land was in the ownership of Ferrybank Developments. In response Arklow Ferrybank noted that the said lands were included in the planning application submitted to the Planning Authority and this in itself was evidence that such lands belonged to Arklow Ferrybank Developments. Arklow Ferrybank Developments also provided title deeds to the Board during the hearing which, it purported indicate, that the said lands were under it's ownership. It was agreed between both parties that an amended schedule would be submitted to the oral hearing indicating that Plot No. 51 belonged to Wallgyp Limited c/o Arklow Shipping Limited and Arklow Ferrybank Developments (pending confirmation).

15.2.12. Ms. Nichola Kenny indicated at the oral hearing that she was only formally notified in respect of Irish Water's intention to accommodate a permanent wayleave on Plot No. 64 to the front of her house the evening before the oral hearing (i.e. January 24th at 7 p.m.). When questioned about this, Irish Water indicated to the Board, that on foot of a solicitor's letter on behalf of Ms. Kenny from Haughton McCarroll Solicitors indicating that the lands to the front of Ms. Kenny's house was "in occupation for upwards of 60 years" by Ms. Kenny. Irish Water in response stated that the works to be carried out on Plot No. 64 are not above ground and the pipeline to be installed will be constructed by trenchless technology. This method of construction will ensure that access to Ms Kenny's property and the area of the ground they occupy is not restricted. Notwithstanding this, it is confirmed that going

forward, Ms. Nichola Kenny will be included in correspondence in relation to the Compulsory Purchase Order. Given the lateness of the notification to Ms. Kenny, Irish Water suggested that it would be open to the Board to reopen the CPO hearing specifically to deal with this issue. The Inspector noted same and would in due course make a determination as to whether or not re-open the hearing. This concluded the questioning and cross examination in relation to the hearing.

15.2.13. Finally, the Planning Inspector asked if any of the parties wished to make closing submissions at the CPO hearing. None of the parties decided to make such submissions. The Inspector therefore formally closed the hearing at 1 p.m.

15.3. **Re-opening of the Oral Hearing.**

Background

15.4. On the day of the initial CPO hearing 25th Jan 2019, Ms Nichola Kenny informed the Board that she was only served notice of the CPO the evening before the hearing commenced. In the interest of natural justice, the Board considered it appropriate to afford Ms Kenny the same opportunities all other objectors. On this basis, Irish Water served notice on Ms Kenny (Plot No.64) and others (Plot No's 65-70) on the 27th of March allowing them 9 weeks to make formal objections to the Board. The last date for objections was May 31st 2019. During this period one objection was received, from Ms Elizabeth and Nichola Kenny. To afford the objector the same opportunities as other objectors, (i.e. to make a formal oral submission to the hearing), the Board decided to re-open the hearing specifically to hear the objections of Ms Kenny and allow Ms Kenny to put questions Irish Water specifically regarding the permanent acquisition of a wayleave through plot 64. The re-opening of the hearing was restricted to hear the oral submission of Ms Kenny only and only in relation to the CPO aspects of the project. Irish Water was also permitted to respond to the issues raised in the objection.

15.5. The hearing was re-opened a the Arklow Bay Hotel at 10 am on Friday 21 June 2019.

Submission of Nicola Kenny

15.6. The submission began by reiterating that the Kenny's are not opposed to the WWTP planned for Arklow and recognise that the community will benefit from the WWTP once built. But concerns were expressed reiterated with regard to noise, disruption and health and safety and the potential damage to property. It was stated that the Kenny's were solely responsible for the cultivation, maintenance and upkeep of plot No.64 for the last 60 years.

15.7. It is also stated that a retired Senior Engineer of Wicklow Co Council informed the objectors, and the objectors neighbours, that there was no need for tunnelling to be carried out within Plot 64, the tunnelling could be confined to the existing roadway on South Quay.

15.8. Questions were asked as to who would take ultimate responsibility for the project, the contractors? the engineers? or Irish Water?

15.9. A question also arises as to whether the CPO would be based on original plans or the revised plans submitted at the Oral hearing of January 25th 2019.

15.10. It is suggested that the works to be carried out by Irish Water are predicated on works to be undertaken as part of the Arklow Flood Relief Scheme, notwithstanding the fact that the Flood Relief Scheme does not yet have the benefit of planning permission.

Finally, it is suggested that evidence submitted by Dr. Hogan at the Oral Hearing in respect of the WWTP, was both flippant and dismissive of impacts that noise could have on elderly people including the objector's mother.

15.10.1. Response on behalf of Irish Water

Witness Statement of John Joyce

This witness statement set out an overview of the scheme, the need for the scheme and details of the land-take requirements for the scheme including plot no.

64. It is noted that a permanent wayleave is required in respect of plot no.64. It is stated that the land take in respect of plot no.64 is proportionate, and is suited, along with other plots, to meet an identified need and that the overall development of the WWTP advances the common good. Plot no.64 is required to facilitate construction and future maintenance to access the pipeline if required. However above ground works are not required on plot 64.

The submission goes on to outline the background as to why Irish Water served notice on Ms Nichola and Elizabeth Kenny in respect of Plot No.64[12]. This was on foot of a Solicitors letter on behalf of Ms Nichols and Elizabeth Kenny (letter attached) which claimed occupancy right to the lands in question.

With regard to future access to plot 64, it is stated that under the permanent wayleave, Irish Water will have the right to construct, lay, keep, operate, maintain, renew, and inspect the infrastructure concerned as defined in the Water Services Act 2007. Such rights would only arise in the highly unlikely event of an issue arising on this section of the pipeline. It is also stated that any maintenance of the pipeline alignment, including the alignment under plot 64, would be executed through the chambers along the interceptor sewer, none of which are located on plot no.64. Finally, it is stated that any excavation works on plot 64 would only occur in an emergency and this is deemed to be extremely unlikely.

Witness Statement of Aiden Mc Carthy

This statement reiterates the point made in Mr John Joyce's submission that access arrangements to the interceptor sewer would typically be made through the inspection chambers along the pipeline alignment. Excavation of land on plot no.64 is 'not an expected event'.

Regarding the pipeline alignment, and the possibility of placing the pipeline alignment on the adjacent public carriageway, the witness statement states that locating the pipeline within the existing carriageway was considered during the design stage. However best practice recommends that a minimum radius of 200m

[12] As well as plots no.'s 65-70, the occupiers of which did not submit an objection to the CPO.

would be required for curved tunnel drives. Therefore, it is not possible to construct the pipeline within the public carriageway using a single curved drive. The placement of the pipeline within the roadway would require the incorporation of an additional chamber, such as that originally proposed (TSS2), and this, it is argued, would have a greater impact on residential amenity.

Questions and Cross-Examination

A number of questions were put by Nichola Kenny to Irish Water, to which Irish Water stated the following:

- Any potential problems which may arise during the construction phase are the sole responsibility of Irish Water as the applicant and are not the responsibility of the contractor employed on behalf of Irish Water.
- Dr Hogan meant no disrespect to any of the objectors in his witness statement to the Board.
- There is no over-lap between the WWTP project and the proposed Arklow Flood Relief Works. Both projects are separate entities, which require permission in their own right. The WWPT project is not reliant on consent for the Arklow Flood Relief Scheme in order to be completed or vice versa. Both are mutually exclusive projects. Irish Water will be in a position, should the Board deem it appropriate to grant permission for the project, to carry out the development, regardless on any decision in respect of the Arklow Flood Relief Scheme.
- It is not envisaged that plot no.64 will be required to be dug-up for maintenance purposes, however the possibility cannot be categorically ruled out.
- The proposal is fully in accordance with the exigencies of the common good.

The Hearing was concluded at 11.20 am.